

(No Model.)

2 Sheets—Sheet 1.

F. KAEMPEN, Jr. & W. WEWERS.
OVEN FOR COOK STOVES OR RANGES.

No. 538,587.

Patented Apr. 30, 1895.

Fig. 1.

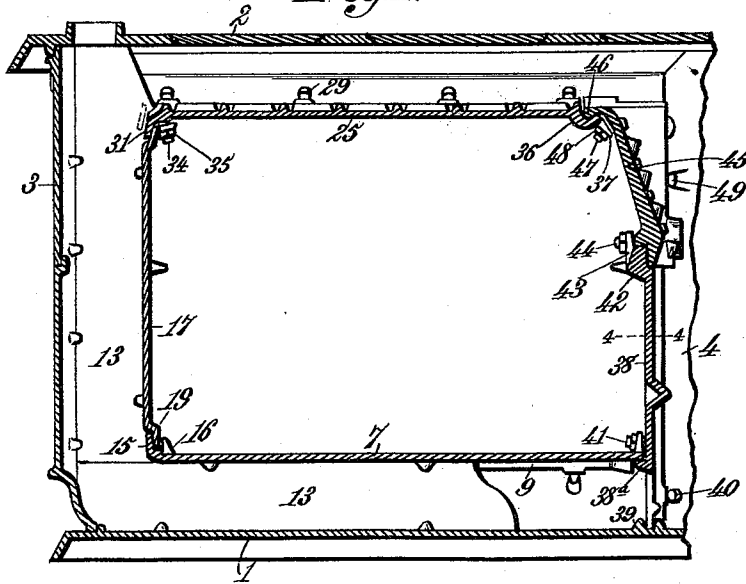
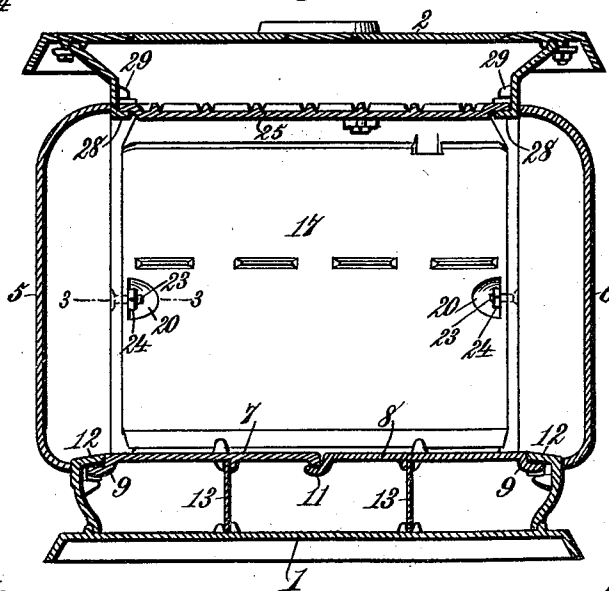


Fig. 2.



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By James L. Norris.
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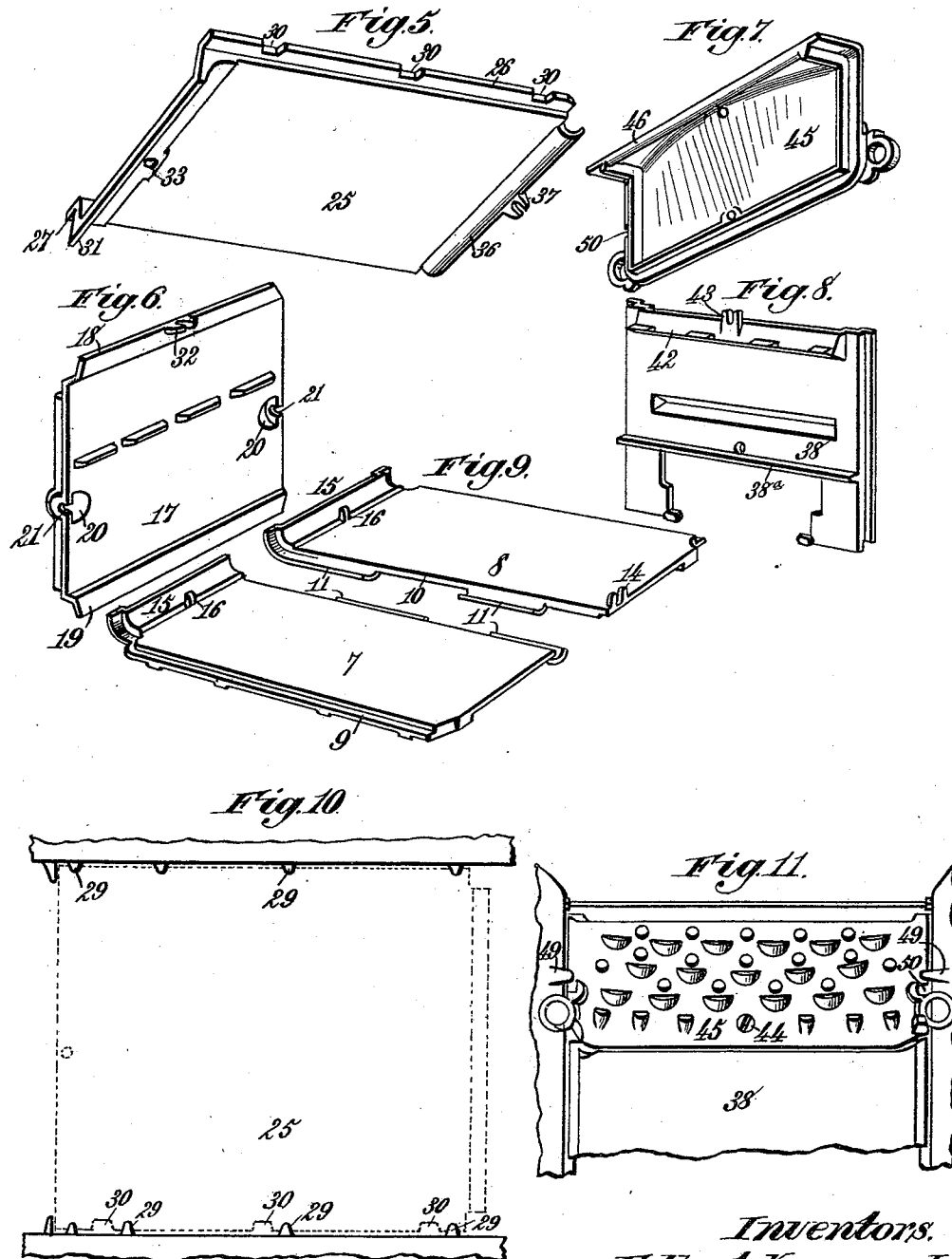
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UNITED STATES PATENT OFFICE.

FOLKERT KAEMPEN, JR., AND WILLIAM WEWERS, OF QUINCY, ILLINOIS,
ASSIGNORS TO THE GEM CITY STOVE MANUFACTURING COMPANY, OF
SAME PLACE.

OVEN FOR COOK STOVES OR RANGES.

SPECIFICATION forming part of Letters Patent No. 538,587, dated April 30, 1895.

Application filed January 23, 1895. Serial No. 535,953. (No model.)

To all whom it may concern:

Be it known that we, FOLKERT KAEMPEN, Jr., and WILLIAM WEWERS, citizens of the United States, residing at Quincy, in the county of Adams and State of Illinois, have invented new and useful Improvements in Ovens for Cook Stoves or Ranges, of which the following is a specification.

Our invention relates to an improved oven for cook stoves and ranges, and has for its object to provide an oven so constructed that its component parts may be readily detached and replaced without detaching or removing any portion of the outer casing of the stove, thus rendering the repair of the oven both inexpensive and easy, and has for a further object to facilitate the assembling together of the parts in the factory.

To these ends our invention consists in the novel features and the arrangement and combination of parts hereinafter fully described and definitely pointed out in the claims following the description, due reference being had to the accompanying drawings, forming a part of this specification, wherein—

Figure 1 is a longitudinal sectional view of a stove, illustrating our improved oven in place. Fig. 2 is a transverse section thereof. Fig. 3 is a detail section taken on the line 3 3 of Fig. 2. Fig. 4 is a similar view taken on the line 4 4 of Fig. 1. Figs. 5, 6, 7, 8, and 9 are perspective views, respectively, of the top and front oven-plates, the fireback, and the back and bottom oven-plates. Fig. 10 is a top plan view illustrating the top oven-plate in dotted lines. Fig. 11 is an end elevation illustrating the fireback in place.

Referring to the drawings the numeral 1 indicates the base of a cook stove; 2, the top thereof; 3, the rear end; 4, a portion of the fire chamber; 5, the front side of the stove casing, and 6 the rear, and on a range the back or blind side, said parts constituting the outer casing, and which may be constructed and secured together in any desired or usual manner.

The front, back, top and bottom, of our improved oven consist of separate, detachable, plates that are adapted to be inserted in place within the stove casing and when properly

placed in position serve to mutually support each other and rigidly hold each part against accidental displacement. The bottom of the oven is formed of two plates 7 and 8, each of which is provided at its outer edge with a downwardly depending curved flange 9, and said plates at their meeting edges are provided with alternating straight portions 10 and flanges 11, the latter being similar in all respects to the flanges 9 above referred to. The curved flanges 9 are adapted to rest beneath inwardly projecting flanges 12 formed upon the opposite sides of the base 1 of the stove casing, the flanged and straight edges of the plates 8 and 9 interlocking with each other, and said plates resting upon the upper edges of the usual flue strips 13 that are supported on the base of the stove. The front end, or the end next adjoining the fire chamber, of each of the bottom plates 7 and 8 rests upon a bead or cleat 38^a cast upon the inner side of the front plate 33, and one of said plates, as 8, is provided with a bifurcated lug 14 adapted to be engaged by a fastening bolt passed through the front plate of the oven, and the rear or opposite ends of said bottom plates are provided with upturned flanges 15, which, together with lugs 16 cast on the upper side of said plates adjacent to said flanges, serve to support the bottom of the back plate 17 of the oven. Said back plate 17 is cast in one flat piece and is provided at its upper and lower edges with inwardly and oppositely projecting flanges 18 and 19, the flanges 19 fitting between the flanges 15 and lug 16 of the bottom oven plates by which the back plate 17 is supported at its bottom against lateral displacement. Said back plate upon its opposite edges, and approximately midway between its top and bottom, is provided with pockets or recesses 20 from which to the extreme edges of the said plate extends a slot 21, the front and rear frames of the stove casing at points opposite said slots being provided with bolt holes 22 in which are inserted threaded bolts 23, the threaded ends of which pass through the slots 21 and project into the pockets 20, nuts 24 being inserted in said pockets and screwed over the threaded ends of the bolts, by which means the back plate 17 is firmly attached to

the stove casing. The top oven plate 25 is provided upon its opposite sides with outwardly and upwardly projecting flanges 26 and 27 which rest upon inwardly projecting flanges 28 formed on the under side of the top 5 of the stove casing and beneath lugs 29 also formed on said top at suitable and uniform intervals apart, the rear edge of the plate 25 being provided at corresponding intervals 10 with notches 30 which permits said plate being dropped over the lugs 29 to its seat on the flange 26. The rear end of the plate 25 is provided with a downwardly depending flange 31 that overhangs the flange 18 formed on the 15 upper edge of the back plate 17. Said flange 18, at about its center, is provided with a bifurcated lug 32 and the top plate 25 with a corresponding bolt hole 33, a bolt 34 being passed through said bolt hole and flange and 20 secured therein by a nut 35, by which means the top and back plates are firmly secured together. The front edge, or the edge adjoining the fire back, is formed with a downwardly curved and depending flange 36 which fits 25 under the upper edge of the fire back and said flange is provided with a bifurcated lug 37 that is engaged by a bolt passing through the fire back, as will hereinafter be described. The front oven plate 38, at its lower edge, rests 30 upon the base 1 of the stove casing and is held against lateral displacement by lugs 39 and 40 formed respectively on the said base and the front and rear frames of the stove casing, said front plate and the bottom oven plates 7 and 8 being secured together by a bolt 41 35 passed through a suitable bolt hole formed in the front plate and through the bifurcated lug 14 before described. The upper edge of the front plate 38 is provided with a vertical 40 offset flange 42 that is adapted to fit under and behind the lower edge of the fire back, and is provided with a bifurcated lug 43 by means of which and a fastening bolt 44 said plate and fire back are secured together. The 45 fire back 45 is formed at its upper edge with an inwardly projecting flange 46 that rests over the depending flange 36 of the top oven plate 25, and is secured thereto by a bolt 47 passed through a suitable bolt hole formed in the flange 46 and held in engagement with the 50 lug 37 of the top plate by a nut 48.

In order to prevent lateral displacement of the fire back before the bolts 44 and 47 are fastened in place or after they have been removed, the front and rear stove frames are 55 provided with inwardly projecting lugs 49 that project beyond the outer edges of the fire back, and said fire back is provided upon one edge with a notch 50 that is adapted to register with the adjacent lug 49 when the 60 end of the fire back is slightly raised to permit of the removal of the latter from behind the lug.

In assembling together the parts of the 65 stove and our improved oven, the stove base is first put down, and the sides, back, front and top of the outer casing or body of the stove

proper are placed in position and fastened together by tie bolts or similar fastenings commonly employed for the purpose. After 70 the body of the stove has thus been erected the oven plates are put in place and fastened in the manner and by the means above described.

If any one of the oven plates should become 75 broken, cracked, or otherwise injured, from any cause, the same may be removed with ease and dispatch without the necessity of removing, unfastening, or otherwise disturbing any of the parts of the stove body or casing, 80 the plates being removed in the manner which we will now proceed to describe.

The fire back 45 is removed by unfastening the bolts 44 and 47 which respectively fasten 85 it to the front and top oven plates and then lifting it out through the fire chamber. To remove the back oven plate, the bolt 34 which secures said plate and the top plate 25 is first unfastened, the bolts 23 which secure it to 90 the front and rear stove frames are next unfastened, and then by inclining the upper edge of the back plate inward the same may be removed through the oven door. The top oven plate 25 may be removed by first removing 95 the fire back and back oven plate in the manner above described. The top oven plate is then moved forward toward the fire chamber until the notches 30 register with the lugs 29 on the the stove casing after which the 100 notched side of said top oven plate is raised and the opposite side thereof slipped from between the flanges 28 and lugs 29 and the plate is lowered and taken out through the oven door.

To remove the bottom oven plates 7 and 8 105 the back oven plate is first taken out as before described, and the bolt 41 which fastens the bottom plates to the front plate is unfastened, after which the meeting edges of the bottom plates are raised, thus withdrawing their 110 opposite outer edges from beneath the flange 12 of the side casing and the plates are then removed through the oven door.

Finally, to remove the front oven plate 38, 115 the fire back, and the back and bottom oven plates are taken out in the manner heretofore explained and the front oven plates may then be taken out through the top of the stove.

It will thus be seen that each or all of the oven plates may be removed and replaced 120 without distributing any of the parts forming the stove body proper in any manner whatever, enabling the oven to be repaired with ease and dispatch and consequently with but slight expense, and also effecting a like econ- 125 omy of labor in assembling the parts together at the factory.

As above described, it will be apparent that the plates constituting the oven are tied in 130 place by the back oven plate but it will be readily manifest to one skilled in the art that the same result may be accomplished by constituting one or more of the other plates the tie plate. It will also be readily understood

that instead of the fastening bolts shown and described other means for securing the oven plates together may be employed without departing from the spirit of our invention.

5 We have shown the oven provided with a front and a rear door, but it will also be understood that one door only may be provided in the usual manner.

10 We have shown and described our improved oven as applied to a cook stove, but the same may with equal facility be applied to ranges, and by the term cook stoves we wish to be understood as including either a cook stove in the conventional meaning of
15 the term or a range.

Having described our invention, what we claim is—

1. The combination with the casing of a cook stove, of an oven composed of top, bottom, and back plates flanged and rabbeted at their contiguous edges and detachably connected together at such points, and a front plate and fire back detachably connected together at their adjacent edges and also detachably connected respectively with the front
25 edges of the top and bottom plates, substantially as described.

2. The combination with the casing of a cook stove, of an oven consisting of detachably connected top, bottom and back plates, and a front plate and fire back rabbeted and detachably bolted together at their contiguous edges, and flanged and detachably bolted to the front edges of the said top and bottom
35 plates, substantially as described.

3. The combination with the casing of a cook stove, of an oven consisting of detachably connected top, bottom, and back plates rabbeted and bolted together at their contiguous edges, and the top plate having at its front edge a curved, depending flange 36 having a slotted lug 37, and a front plate and fire-back rabbeted and detachably bolted together at their contiguous edges, said front
45 plate having its lower edge flanged and detachably bolted to the front edge of the back-plate, and said fire-back having its edge provided with an inwardly projecting flange 46, lying within the curved, depending flange at the front edge of the top plate and bolted to the slotted lug of said curved, depending
50 flange, substantially as and for the purpose described.

4. The combination with the casing of a cook stove, of an oven having a back-plate 17, provided with top and bottom flanges 18 and 19, a bottom composed of two bottom plates 7 and 8 having upwardly-projecting, rear end flanges 15 and interlocking flanges 11 at their
60 adjacent edges, said upwardly-projecting, rear end flanges detachably engaging the bottom flange of the back-plate, a top-plate 25 having a pendent, rear end flange 31, overhanging and bolted to the upwardly-projecting top flange of the back-plate, and a front
65 plate and fire-back detachably rabbeted and

connected together at their contiguous edges and detachably connected respectively to the bottom and top plates, substantially as and for the purpose described. 70

5. In a cook stove, the combination of the stove casing having its top provided with inwardly-projecting flanges 28, and lugs 29, located directly above said flanges, with an oven composed of detachably connected plates having its top detachable plate supported upon said flanges and beneath said lugs, and provided at one edge with notches which can be registered with the lugs for placing the top plate on said flanges, substantially as and for
75 the purposes described. 80

6. In a cook stove, the combination with the stove casing provided at its bottom with inwardly projecting flanges 12 of an oven provided with a removable bottom consisting of
85 two plates 7 and 8 having detachably interlocking flanges 11 at their inner edges and provided at their outer edges with downwardly depending flanges 9 adapted to fit under the said flanges on the bottom of the
90 stove casing, substantially as described.

7. In a cook stove, the combination with the stove casing of an oven having removable top, bottom and front plates, and a removable back plate, having inwardly and oppositely
95 projecting flanges, the top and bottom plates having flanges projecting behind the flanges of the back plate, lugs formed on the bottom plate in front of the back plate, and a fastening for detachably securing the top and back
100 plate together, substantially as described.

8. In a cook stove, the combination with the stove casing, of an oven provided with a removable back plate having formed in its opposite edges pockets 20 and slots 21 communicating therewith, bolts 23 passing through the sides of the stove casing and said slots, and nuts 24 tapped over the threaded end of said bolts and resting in said pockets, substantially as described. 110

9. In a cook stove, the combination with the stove casing provided upon its bottom with lugs 39 and upon its front and rear frames with lugs 40, of an oven having a removable front plate supported at its bottom between
115 the lugs 39 and 40 and detachably secured at its upper edge to the fire back, substantially as described.

10. In a cook stove, the combination with removable top and front oven plates having inwardly projecting flanges, of a removable fire back detachably secured to said flanges, substantially as described. 120

11. In a cook stove, the combination with the stove casing provided at its top with inwardly projecting flanges 28 and lugs 29 arranged above said flanges, and at its bottom with inwardly projecting flanges 12, of an oven consisting of a top plate supported on the flanges 28 and provided at one edge with
125 notches adapted to register with the lugs 29, and at its opposite ends formed with down- 130

wardly depending flanges 31 and 36, the oven
bottom formed of two plates provided at their
opposite outer edges with depending flanges
9 resting against the underside of the flanges
5 12, a support for said plates, the back plate
detachably secured to said top and bottom
plates and to the stove casing, the front plate
detachably secured to the oven bottom and
removably supported between lugs 39 and 40
10 formed on the stove casing, and the fire back
detachably secured to the upper edge of the

front plate and to the flange 36 of the top
plate, substantially as described.

In testimony whereof we have hereunto set
our hands and affixed our seals in presence 15
of two subscribing witnesses.

FOLKERT KAEMPEN, JR. [L. S.]
WILLIAM WEWERS. [L. S.]

Witnesses:

N. A. GRIMMER, Jr.,
H. C. SPRICK.