(No Model.)

I. KINSEY.

OVEN.

No. 589,090. Patented Aug. 31, 1897.

Fig 2.

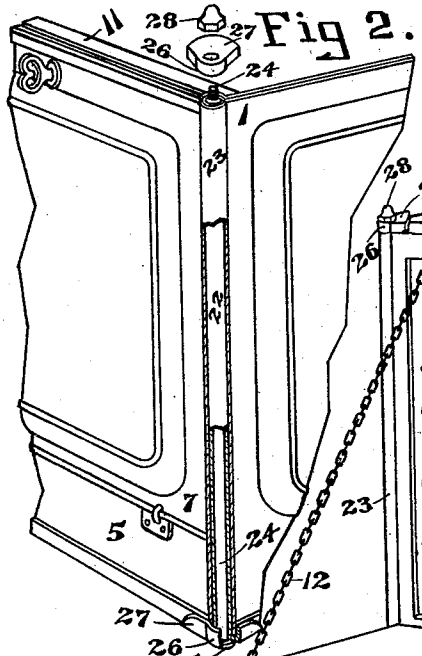


Fig 1.

Fig 3.

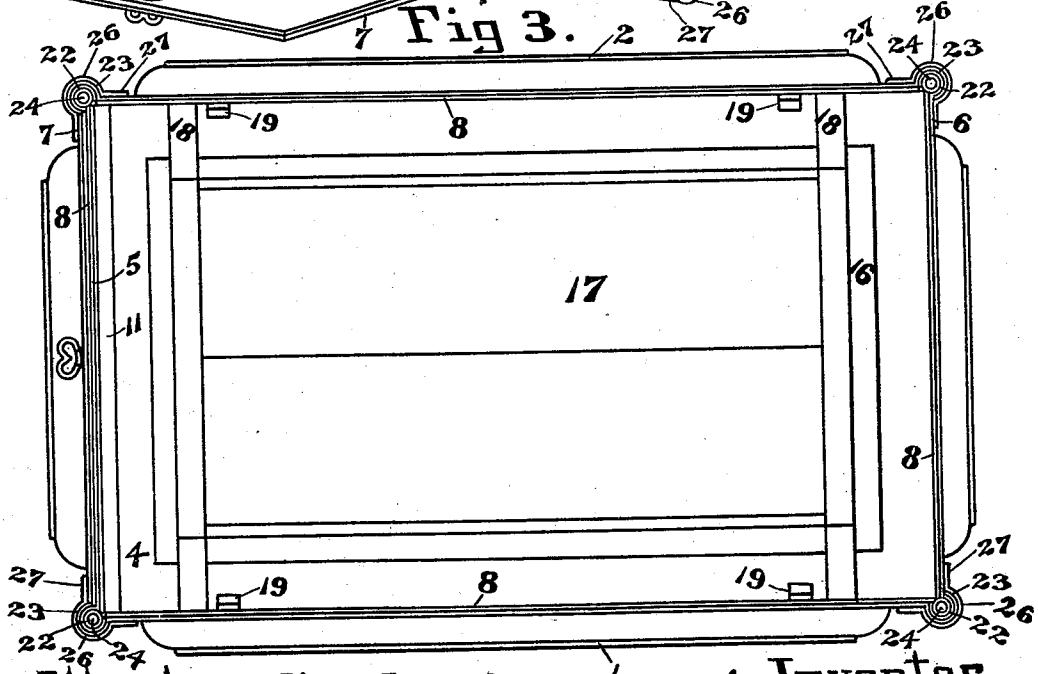
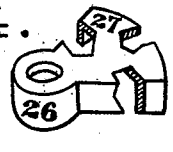


Fig 4.



Attest:

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THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

ISAAC KINSEY, OF DAYTON, OHIO, ASSIGNOR TO THE DAYTON MANUFACTURING COMPANY, OF SAME PLACE.

OVEN.

SPECIFICATION forming part of Letters Patent No. 589,090, dated August 31, 1897.

Application filed February 5, 1897. Serial No. 622,069. (No model.)

To all whom it may concern:

Be it known that I, ISAAC KINSEY, a citizen of the United States, residing at Dayton, in the county of Montgomery and State of Ohio, have invented certain new and useful Improvements in Ovens, of which the following is a specification, reference being had therein to the accompanying drawings.

My invention has reference to domestic ovens, such as are designed for use with oil and vapor stoves, more particularly the class known as "knockdown" ovens; and it consists in an improved manner of construction whereby the several parts constituting a complete oven can be packed together in knockdown form in a comparatively small space and shipped or stored away in boxes or packages of about one-fourth the size of the oven when put together, its objects being, first, that the surface-space required in which to pack the oven in knockdown form shall be practically the same as that of the largest side of the oven; second, to so construct an oven of the class referred to that it can be easily and quickly put together by a person of slight intelligence; third, that when put together it will be rigid and in this respect not open to the objection commonly raised against ovens of this class; fourth, to construct the side, end, and top walls of such ovens with an inner lining secured to each of the said walls and removable therewith from the other walls of the oven structure, and, fifth, to in other ways improve upon the general construction of such ovens.

I accomplish the objects mentioned by new and novel means, as hereinafter clearly described, and shown in the accompanying drawings, in which—

Figure 1 is a broken perspective view of a complete oven with the door thereof shown in a let-down or open position; Fig. 2, an enlarged partial perspective view of the door, the door-frame, and one of its adjoining sides connected thereto, the corner being broken away, showing the same in partial section, the door being shown in a closed position and the binding-nut and upper corner-washer removed; Fig. 3, an enlarged top view of the oven with its top and racks removed, and Fig. 4 an enlarged perspective view of one of the corner-washers.

Corresponding parts in the several figures are indicated by similar characters of reference.

The oven consists chiefly of sides 1 and 2, top 3, bottom 4, ends 5 and 6, and a door 7. The sides 1 and 2, end 6, and door 7 are preferably paneled, as shown, and are each provided with an inner lining 8, riveted or otherwise secured thereto and detachable therewith and forming air-spaces 9, all the above parts being by preference constructed of sheet metal. The side 5, herein designated as "end," of the oven is made in the form of an open frame having its inner edges beaded or wired, as shown at 10 in Fig. 1, and its upper edge turned inwardly, as shown at 11, to contribute strength thereto.

The door 7 is hinged to the frame 5 and provided with chains 12, attached to the oven and to the door and of such length as to prevent the opening movement of the latter beyond a fixed desired limit, where it forms a shelf, as clearly shown in Fig. 1. The door is held in a closed position by a catch or turn-button 13, which engages behind the upper portion of the frame 5, the door 7 and the frame 5 forming one end of the oven.

The edges of top 3 and bottom 4 are turned at right angles to their flat surfaces and overlap the ends and sides when the oven is put together, except at the corners, which are cut away, for a purpose presently to be explained. The top has an inner paneled lining 14 secured thereto and detachable therewith, forming an air-space 15, the bottom being provided with an opening 16 for the passage of heat to the oven and above which is located a deflector 17, mounted on a suitable number of supports 18, and two opposite sides of the inner walls are provided with a series of projecting brackets 19, located at suitable distances from the ends thereof and which support movable racks 20 and 21 in the usual manner. The vertical edges of the four side pieces 1, 2, 5, and 6 are formed tubular-like and in what may be termed "three-quarter" tubes, unbroken in length and extending practically from top to bottom of the oven at the

corners thereof, as indicated by the figures 22 and 23, the size or diameter of the tubes 22 being somewhat less than that of the tubes 23, so that they fit nicely on the inside of the latter, the curls being so formed that when the walls are assembled together the edges of the outer tubes are in close contact with their coöperating walls and form a substantially firm and non-collapsible frame, whereby when the oven is assembled for use a rigid and substantial structure is produced and whereby the rickety construction common to all other knockdown ovens is overcome.

When the oven is to be assembled, one of the sides and one of the ends are first put together by inserting one of the smaller into one of the larger tubes and pressing them to place. Then a third side or end is connected in the same manner, after which the fourth side or end is joined to the other three, and the sides and ends then form a connected frame ready to receive the top and bottom, both of which are cut out at their corners, as shown at one of the same in Fig. 1, to accommodate the tubes 22 and 23. The bottom is then placed in position, with its vertically-flanged edges overlapping the sides and ends. Rods 24, having heads 25 and washers 26, are next inserted through the tubular corners, the said washers being provided with extensions 27, which overlap the corners of the bottom. The top is then placed in position and other washers 26 overlap the corners in the same manner as at the bottom. The upper ends of the rods 24 pass through the top washers and are screw-threaded to receive nuts 28, by which means the whole structure is firmly bound together.

I am aware that it is not new to construct ovens in knockdown manner, and do not, therefore, broadly claim such construction, and I especially disclaim the constructions shown and described in United States Letters Patent Nos. 249,843, 343,419, and 545,511. It is obvious, however, that the details of construction as I have described them herein may be modified without departing from the spirit of my invention.

The advantages of an oven such as I have shown and described herein are well known to the trade and lie in the fact that they are much more convenient to handle, require much less room for storage, cost less for transportation, and that they can be packed and stored in pasteboard boxes, whereby they can be preserved in good salable condition for an indefinite period of time; but up to the time of my present invention, so far as I am aware, no such oven has been produced which has been entirely satisfactory.

What I claim as new, and desire to secure by Letters Patent, is—

1. A domestic oven in which two edges of two of its walls terminate in tubular-like curls or hollow beads and in which two edges of two of its other walls likewise terminate, one set of said curls incasing the other set thus uniting the said four walls together in a non-collapsible manner, one of said walls having a door-opening and a door, said door, and three of said walls, each being provided with a lining secured thereto, removable therewith and forming an air-chamber between, in combination with a top wall, and a bottom having an opening for the admission of heat to the oven, and means for connecting said four walls and said top wall and bottom together, whereby a rigid separable structure is produced which can be readily put together and taken apart, and when in the latter condition can be packed in a surface-space represented by the dimensions of the largest wall of the oven, substantially as and for the purpose set forth.

2. A domestic oven in which the vertical edges of its two side walls terminate in tubular-like curls or hollow beads and in which the vertical edges of its two end walls likewise terminate, one set of said curls incasing the other set thereby uniting the said four walls together in a non-collapsible manner, one of said end walls having a door-opening and a door, the door, the opposite end wall and the two side walls each having a lining secured thereto, removable therewith and forming an air-chamber between, in combination with a top having a lining forming an air-chamber between, a bottom provided with an opening for the admission of heat to the oven and means for connecting said top and said bottom to said walls, whereby a rigid separable structure is produced which can be readily put together and taken apart, and when in the latter condition can be packed in a surface-space represented by the dimensions of the largest wall of the oven, substantially as and for the purpose set forth.

3. A domestic oven in which two edges of two of its walls terminate in tubular-like curls or partial tubes, and in which two edges of two of its other walls likewise terminate, one set of said curls incasing the other set thus uniting the said four walls together in a non-collapsible manner, one of said walls being provided with a door-opening and a door, said door and the other three walls each having a lining secured thereto, removable therewith, and forming an independent air-space between, in combination with two other walls adapted to register with the said four walls, bolts which pass through said curls and which are provided with washers at either end thereof, said washers having extensions overlapping the corners of the oven, and nuts to engage said bolts, whereby the structure is bound firmly together, and whereby it can be readily taken apart and packed in a surface-space represented by the dimensions of the largest wall of the oven, substantially as and for the purpose set forth.

4. A domestic oven in which two edges of two of its walls terminate in tubular-like curls or partial tubes, and in which two edges of two of its other walls likewise terminate, one

set of said curls incasing the other set thereby uniting the said four walls together in a non-collapsible manner, one of said walls being provided with a door-opening and a door, said door and the other three walls each having a lining secured thereto, removable therewith, and forming an air-space between, in combination with a top wall, and a bottom wall, each having their edges flanged at an angle to their flat surfaces; said flanged edges overlapping the said other four walls and the said bottom wall having an opening for admission of heat to the oven, washers located at and overlapping the corners of the oven, bolts which pass through said washers and through said curls, and nuts engaging said bolts, whereby the structure is bound firmly together, and whereby it can be readily taken apart and packed in a surface-space represented by the dimensions of the largest wall of the oven, substantially as and for the purpose set forth.

5. A domestic oven in which two edges of two of its walls terminate in tubular-like curls or hollow beads and in which two edges of two of its other walls likewise terminate, one set of said curls incasing the other set thus uniting the said four walls together in a non-collapsible manner, one of said walls having a door-opening and a door, in combination with a top wall, a bottom having an opening for the admission of heat to the oven, a deflector mounted above said opening, and means for connecting said four walls and said top wall and bottom together, whereby a rigid separable structure is produced which can be readily put together and taken apart, and when in the latter condition can be packed in a surface-space represented by the dimensions of the largest wall of the oven, substantially as and for the purpose set forth.

6. A domestic oven consisting of two side and two end walls, one of said end walls having an opening and a door adapted to close the same, a top wall and a bottom having an opening for the admission of heat to the oven, and a deflector mounted above said opening, the said top wall, the said two side walls, one of said end walls and the said door each having separate linings secured thereto and removable therewith, and each having an air-chamber between, in combination with means for removably securing said walls and said bottom together, in a non-collapsible manner, whereby a rigid separable structure is produced which can be readily put together and taken apart, and when in the latter condition can be packed in a surface-space represented by the largest wall of the oven, substantially as set forth.

ISAAC KINSEY.

Witnesses:
ED L. SPENCER,
CHARLES CALTON.