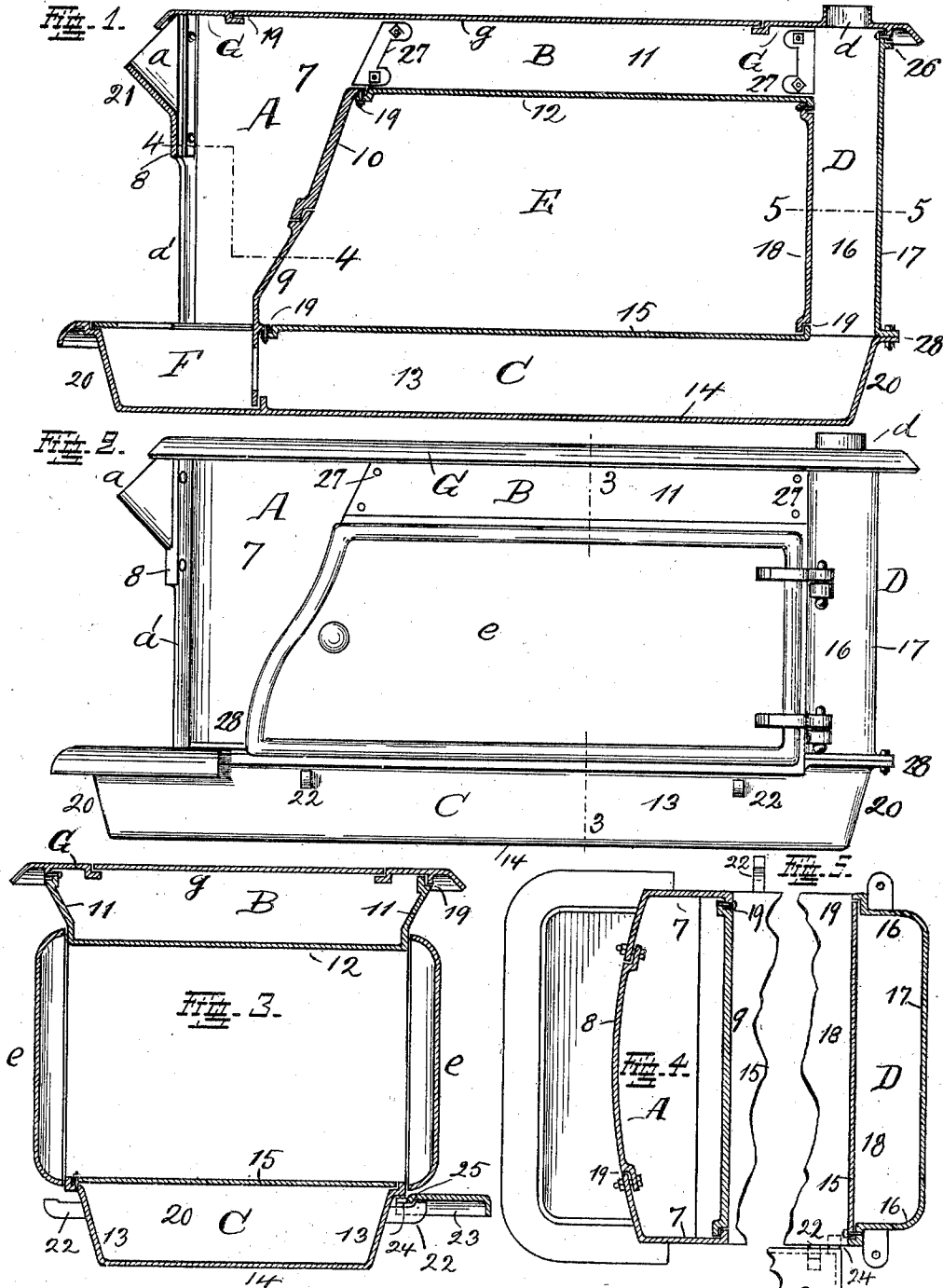


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STOVE.
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UNITED STATES PATENT OFFICE.

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STOVE.

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To all whom it may concern:

Be it known that I, CHARLES L. GOHMANN, a citizen of the United States, and residing at New Albany, Floyd county, State of Indiana, have invented certain new and useful Improvements in Stoves; and I do declare the following to be a clear, full, and exact description thereof, attention being called to the accompanying drawing, with the reference-characters marked thereon, which forms also a part of this specification.

This invention relates to improvements in the construction of cast-iron stoves of the customary cooking stove type which embodies an oven.

The shell of such a stove only is concerned in this invention and the object is to simplify the construction thereof by reducing the number of parts of which it is made up so that fewer joints result whereby an article of superior finish is produced, less susceptible to the effects of heat and better resisting strains which tend to warp it out of shape and the mounting of which, that is assembling and connecting of its various parts, is greatly facilitated.

In the following specification and particularly pointed out in the claims at the end thereof, will be found a full description of my invention, which latter is also illustrated in the accompanying drawing, in which:—

Figure 1, is a longitudinal section through the shell of a cooking-stove containing an oven, the legs, doors, linings, grates and interior flue-partitions and their arrangement being omitted as having no bearing on my invention. Fig. 2, is a side-elevation of this stove in the same condition, except that one of the oven doors is shown in position. Fig. 3, is a vertical cross-section on line 3—3 of Fig. 2. Fig. 4, is a horizontal section on line 4—4 of Fig. 1. Fig. 5, is a similar section on line 5—5 of the same figure.

A space A, back of the front-side of the stove, when provided with the omitted linings and grate, constitutes in its upper part the fire-chamber, and in its lower part the ash-chamber. Openings to these spaces are provided in the front wall of the stove, the upper one *a* permitting introduction of fuel and the one below, *a'* serving to admit air for draft. Doors, usually hingedly connected, are provided for these openings, but are not shown.

B is the upper horizontal flue-space, C is the lower horizontal flue-space, and D is the vertical flue-space, whereby the two spaces first mentioned communicate with each other. Space A is also in open communication with the upper flue-space B. Heat and products of combustion, generated in the upper part of space A which in the completed stove forms the fire-chamber, traverse these flues and pass out through them, the final egress taking place at *d* where a stove-pipe is to be attached. Interior partitions retarding the products of combustion and heated air are provided in these flue-spaces and cause heat to be imparted to a larger space E, surrounded on four of its sides by these spaces and which space E constitutes the oven. These interior partitions of the flues are not shown, since they are a well known feature in cook-stoves and have no bearing on my invention. The other two sides of this oven-space E, opposite each other are closed by the oven-doors *e—e*.

F is a space provided below space A, extending also beyond the front of the stove and serves as a receiver for an ash-pan.

The top of the stove consists of an outer, rectangular frame G and of a removable plate *g* supported thereby. This plate may consist of a number of sections, each independently removable. Such sections are also known as lids and being a well known feature in cooking-stoves it has not been considered necessary to specifically illustrate and describe them. The described structure rests generally upon legs provided below the underside of the lower flue.

In the usual manufacture of such stoves and as heretofore practiced, it has been customary to make all sides of this shell and inclosing walls of its flues of flat plates, including also the opposite sides which contain the openings for the oven-doors, the various plates being connected to each other at their edges where they come together at the corners of the stove. As is well known, such flat plates do not always cast perfectly straight and therefore, when such a stove is to be mounted, meaning thereby when the various parts of its shell are assembled to be connected, it has been found difficult to fit the plates at their edges properly to each other to form perfect joints. Sometimes stove mounters attempt to force a fit which however frequently results in broken castings. Again a plate, only slightly warped,

may stand such a forced fit for the time being, the strain however under which it is thereby placed leading usually sooner or later to a break, particularly as soon as the stove is fired. At corners, the joints become open causing the stove to present an unsightly appearance. To overcome these difficulties, I construct such a stove of substantially four sections, a front-section containing the space A, a top-section which contains the top-flue B, a bottom section containing the bottom-flue C, and a rear section containing the vertical flue D, and each of which sections is constructed of four sides which constitute the inclosing sides of these spaces, and two of which sides, comparatively narrow, project angularly from opposite edges of an intermediate broader side, their connection thereto being an integral one. The fourth side is rigidly connected. Thus, for instance, the section for top-flue B is made up of two side-portions 11—11 and of a transverse portion 12, which latter forms also the top-plate of the oven, all three made up to form an integral casting. The fourth side of this section is formed by the top of the stove. The section for lower flue C is made up of two side-portions 13—13 and of a transverse portion 14 which forms also the bottom of the stove, all three parts forming one casting. The fourth side of this section is made up of a plate 15 which forms the bottom of the oven. The rear section for the vertical flue D is made up of two side-portions 16—16 connected by a wall 17 which forms also the rear-side of the stove, all three being contained in one casting. The fourth side of this section is made up of a plate 18, which forms also the rear wall of the oven. The front-section for space A consists of two transverse plates 9 and 10 which form also the front-wall of the oven, of two side-portions 7—7 connected to these plates 9 and 10 and of a front-side 8 extending between these two side-portions 7—7. In the stove illustrated an outwardly extending neck 21 is shown around the feed-opening *a* provided in the center of the upper part of this front-side 8 to facilitate introduction of fuel. When such a neck is to be provided, that portion between the ends of the front-side from which it projects may be made of an independent piece to facilitate casting. This independent piece is connected by bolts or screws to the end-portions of the front-side and with them completes this side as best shown in Fig. 4, said end-portions forming integral angular extensions of the side-portions 7—7 of section A.

Of the complementary edges where two parts or sides come together, one is usually rabbeted as shown at 19, the rabbet being of a depth, equal to the thickness of the other plate so as to receive the edge thereof flush, the connection being completed according to

well known methods employed in stove-manufacture and by means of screws and bolts as shown. The connection of the sections to each other is accomplished in a similar manner. Note for instance the connection at the upper end of section D to the top as shown at 26. Note also the additional connection of upright sections A and D to top-section B by means of overlapping flanges and by bolts as indicated at 27 in Figs. 1 and 2. Observe also the bolt-connected flanges indicated at 28 in Figs. 1 and 2, whereby the lower ends of the upright sections A and D are connected to the lower section C.

As heretofore practiced it was extremely difficult to obtain perfectly straight and flat castings for the sides of the stove, owing to their size. It was also difficult to connect such plates with a perfect joint, inasmuch as a limited imperfection or distortion would preclude possibility to obtain a proper fit and close connection in view of the length of the edges to be joined. My improved method does not require such large flat castings, since these sides are made up of complementary parts viz. wall-portions 7, 11, 13 and 16, each being of comparatively small size and forming portions of other parts viz. the sections which make up the inclosure of space A and of flues B, C and D and whereby they are held to their shape. No joints result on the corners of the stove and those which result where these sections come together are very short and readily fitted and long joints at the edges of the stove or anywhere which are difficult to fit and to connect, are entirely eliminated.

22 are brackets, on one or both sides of the stove adapted to support a removable shelf 23. This latter is held against tipping by lugs 24, which extend under the projecting upper edge of the lower section, while a flange 25 on the underside of the shelf is engaged by the outer ends of the brackets whereby the shelf is prevented from slipping off. Equivalent material arranged and joined in an equivalent manner may be substituted.

Having described my invention, I claim as new:

1. A cook-stove shell containing an oven-space, adjacent fire and ash-chamber spaces and adjacent flue-spaces, said adjacent spaces being in open communication with each other, the shell inclosing these spaces being made up of four-sided sections which are rigidly connected to each other, each section consisting of an intermediate part which constitutes one of its sides and is arranged transversely with reference to the shell, of two lateral parts which project from opposite edges of this intermediate part and of a fourth side parallel to the intermediate part and rigidly connected to the two lateral parts.

2. A cook-stove shell made up of four
foursided communicating shell-sections, each
section consisting of two opposite broader
sides and of two intermediate narrower
5 sides which latter sides are contained in
one casting with one of the broader sides in
each section and means to connect these
sections to each other in a manner to form a
stove-shell with an oven-chamber, the four
10 surrounding walls of which oven are each
constituted by one of the broad sides of the
connected shell-section.

3. In stove construction, the combination
of four four-sided shell-sections being open
15 at their ends and connected to each other to
form part of the inclosure of an oven, three
of the four sides of each section being inte-
grally connected in one casting and the
fourth side being rigidly connected to this
20 three-sided casting.

4. A cook-stove shell made up of four
four-sided communicating shell-sections,

each section consisting of two opposite
broader sides and of two intermediate nar-
rower sides, which latter sides are contained 25
in one casting with one of the broader sides
in each section and means to connect these
sections to each other in a manner to form a
stove-shell with an oven-chamber, which in
opposite sides of the shell has opposite ac- 30
cess-openings, said opposite sides being con-
stituted by the narrower sides of the shell-
sections, said narrower sides being comple-
mentary to each other for this purpose, four
of them making up one of these sides on one 35
side of the shell and four serving for the
same purpose on the other side.

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

CHARLES L. GOHMANN.

Witnesses:

LONNIE MEYLIN,
HERMAN KNIRIHM.