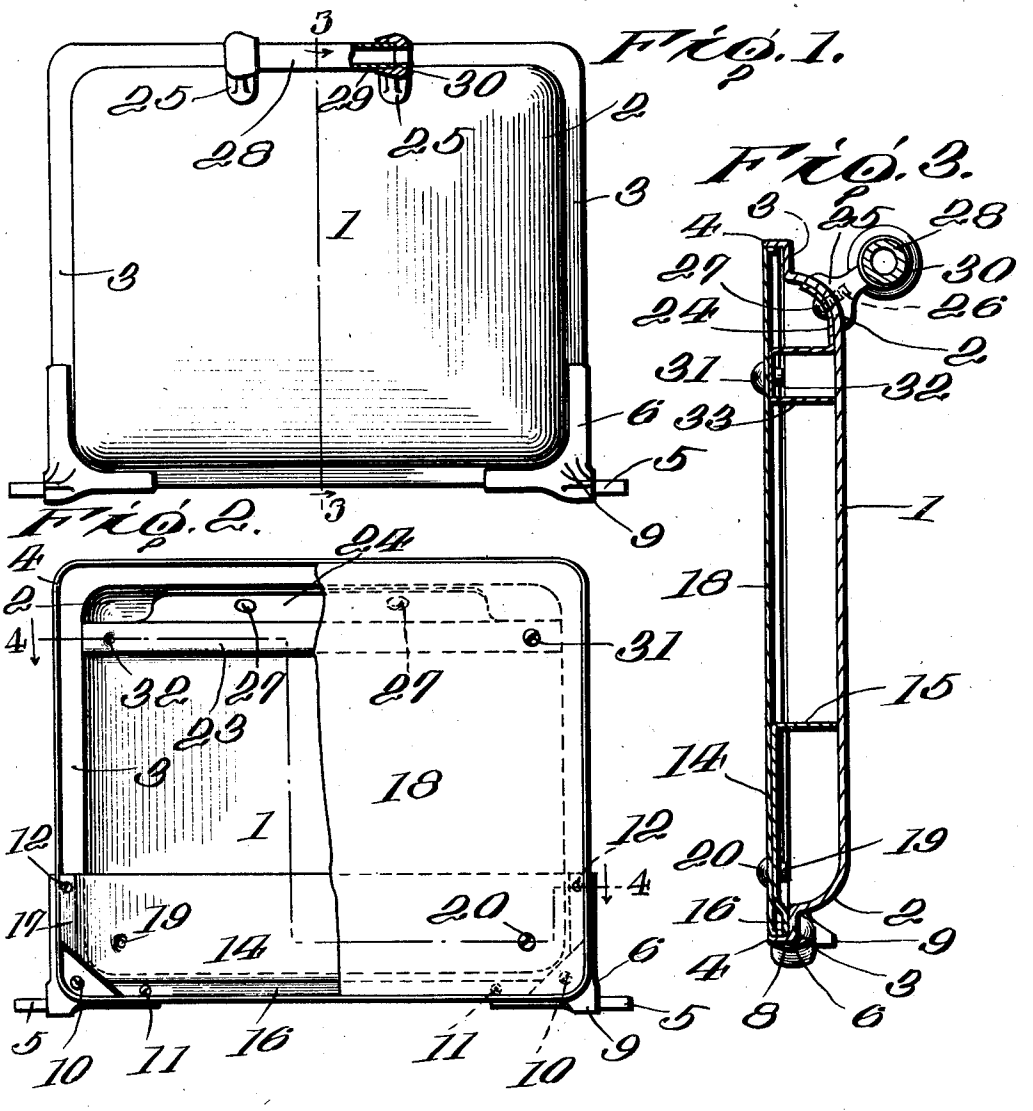
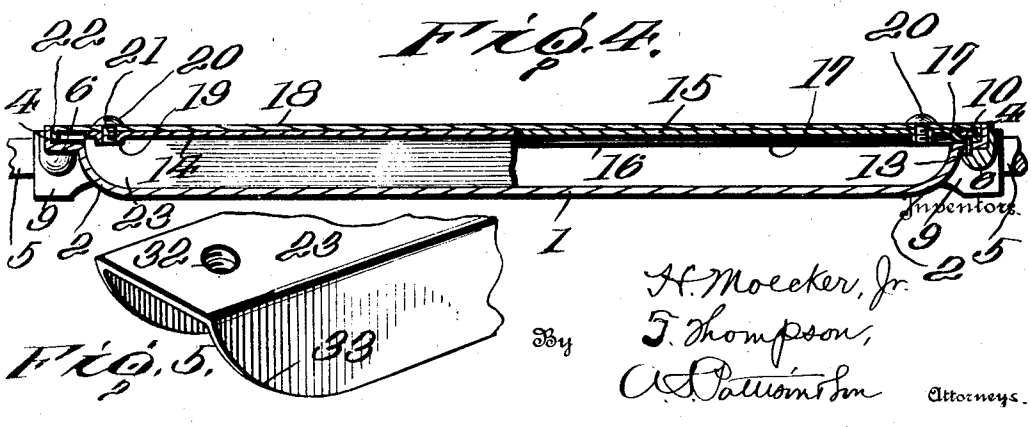
May 11, 1926. 1,584,121

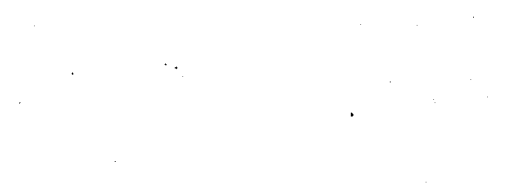
H. MOECKER, JR., ET AL

OVEN DOOR

Filed Sept. 28, 1925 2 Sheets-Sheet 1







Inventors.
H. Moecker, Jr.
F. Thompson,
By A. S. Patterson Son
Attorneys.

May 11, 1926. 1,584,121

H. MOECKER, JR., ET AL.

OVEN DOOR

Filed Sept. 28, 1925 2 Sheets-Sheet 2

Fig. 6.

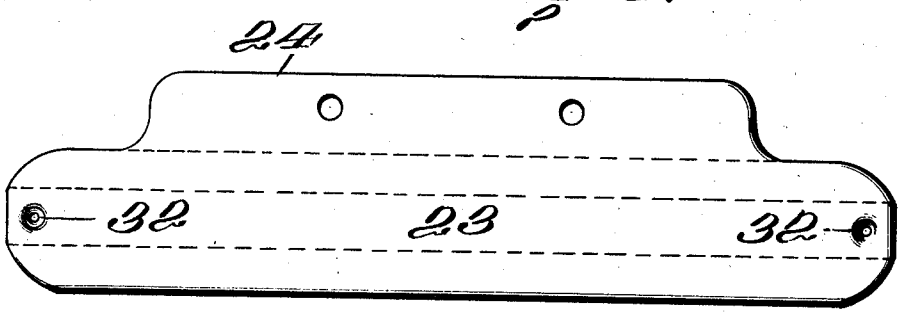


Fig. 7.

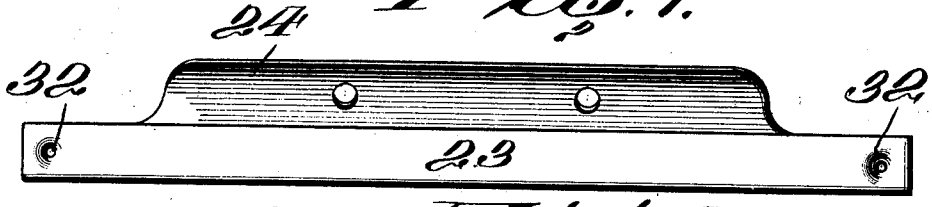


Fig. 8.

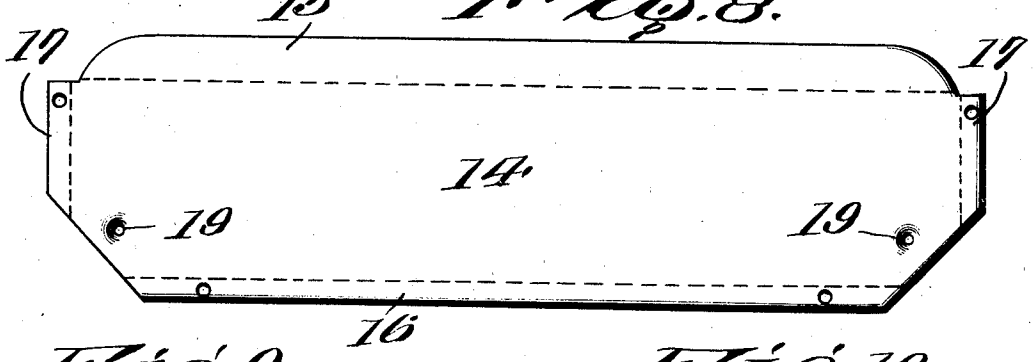


Fig. 9.

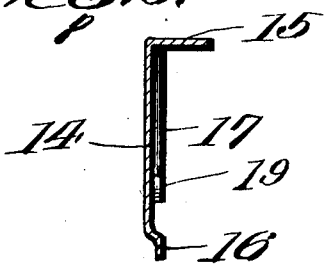
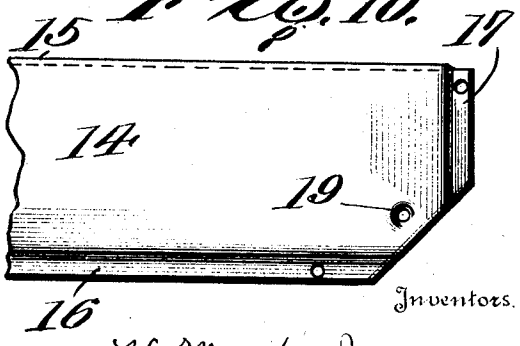


Fig. 10.



Inventors.

H. Moecker, Jr.

J. Thompson,

By A. S. Pattison & Son

Attorneys.

Patented May 11, 1926. 1,584,121

UNITED STATES PATENT OFFICE.

HENRY MOECKER, JR., OF HOMEWOOD, AND THEODORE THOMPSON, OF HARVEY, ILLINOIS, ASSIGNORS TO AMERICAN STOVE COMPANY, OF ST. LOUIS, MISSOURI, A CORPORATION OF NEW JERSEY.

OVEN DOOR.

Application filed September 28, 1925. Serial No. 59,029.

This invention relates to improvements in oven doors, and it is particularly intended for use on stoves of all types and kinds.

The primary object of the present invention is to provide a construction by means of which the attaching means for the oven door hinged elements are concealed.

A further object of the invention is to provide a construction whereby the means for attaching the handle to the oven door are likewise concealed.

A further object of the invention is to provide a construction whereby the means for the hinged element and for the handle are both attached independent of the lining of the door and are concealed from the outer face of the door.

Other objects of the invention will appear from the following description.

In the accompanying drawings:

Figure 1 is an outer face view of an oven door with our improvements applied thereto.

Fig. 2 is an inner face view of our improved door construction, the lining being shown partly in section, disclosing the inner construction of the door.

Fig. 3 is a vertical central sectional view on the line 3—3 of Figure 1 of a door which embodies our present improvement.

Fig. 4 is a horizontal sectional view on the line 4—4 of Figure 2.

Fig. 5 is a detached perspective view of one end of the construction that is applied to the upper portion of the door.

Fig. 6 is a plan view of a blank out of which the upper or top construction of our improvement is formed.

Fig. 7 is a plan view of the upper element of our improvement.

Fig. 8 is a plan view of a blank from which the lower element of our improvement is formed.

Fig. 9 is a vertical central sectional view through the lower element of our improvement.

Fig. 10 is a side view of one-half of the lower element of our improvement.

Heretofore oven doors as manufactured have generally been constructed so that the clamping bolts or other means for fastening the hinged elements have been exposed on the outer side of the door, and the same is likewise true in regard to the means for fastening the handle to the door. Also, in some instances, oven doors as constructed have had the above-mentioned fastening means attached to and carried by the lining of the door.

As will be seen from the following description, our fastening means is not carried by or supported by the lining, but is carried by and supported substantially by the door itself.

As a consequence, we regard our present improvements as being more economical in construction and in assembling than oven doors that have heretofore been manufactured.

Referring now to the drawings, 1 represents the door that forms part of our improvement. This door is preferably constructed of sheet-metal, which is stamped into shape as here shown. It has the arched portion 2, having its outer edge 3 bent substantially at right-angles to the arched portion 2, and then bent inward as at 4. The arched portion extends throughout the periphery of the door, and this is likewise true of the bent portions 3 and 4.

In carrying out our improved construction, the hinged element or pintel 5, projects from a right angled member 6, the said right angled member being provided with a flange 7, which extends around its vertical edge and its horizontal or lower portion 8. A door constructed substantially as above described, has been heretofore manufactured, but we believe the construction of the right-angled hinged member 6, when combined with the means for fastening it in position, is new. This hinged member 6 has also projecting outward a lip 9 that serves to act with a member (not shown) whereby the oven door is held closed and is controlled when being opened. The lip 9 and the member (not shown) are both old.

The hinged member 6 is made of cast-metal, and the means for securing it to the oven door consists of three screws 10, 11 and 12, which screws pass through the flange or bent portion 3 into the cast-metal hinged member 6, but it should be noted that these

screws pass into screw-threaded openings 13, which do not go all the way through the cast-member 6, but are made sufficiently short to pass into the openings 13 and to tightly clamp the hinged member in position.

We provide a brace 14, which is located at the lower end of the door 1, and this brace extends upward as shown at 14, Fig. 2, and has its upper edge turned outward at right angles, as shown at 15, and abuts against the inner side of the outwardly bulged portion of the door. The lower edge 16 of the member 14 is deflected inward in engagement with the angular bent portion 3, and preferably the screws 11 pass through this bent portion, as well as through the angular portion 3 into the cast-hinged member 6. Also the opposite ends of the member 14 are bent outward, as shown at 17, and rest against the angular bent portion 3, and preferably the screws 12 pass through these bent portions 17 as well as the angular bent portion 3 and into the hinged member 6. These screws 11 and 12 passing through the bent portions 16 and 17 of the member 14, serve to hold the member 14 to the door. The primary function of this member 14 is to hold the lower edge of the lining 18 to the door. Therefore, this member 14 is provided with inwardly flanged openings 19, which are internally screw-threaded and receive the screws 20 that pass through openings 21 made in the lining 18. In this manner the lower edge of the lining is united in position to the door through the intervention of the member 14. The flanged openings 19 are preferably formed by punching the openings in such a manner as to form inwardly extending flanges by means of the punch, the flanges being afterwards screw-threaded. This lining 18 preferably has its outer edge bent inward, as shown at 22, Fig. 4, and telescopes the inwardly bent angular portion 4 of the door 1.

Our improvement also involves locating in the upper portion of the door a brace member 23, which member is essentially U-shaped in cross-section, the upper leg of the U having its edge bent upward as shown at 24, corresponding to the bulged portion 2 of the door.

The handle is constructed and is attached as follows: The arm portions 25 of the handle extend inward and have their inner edges shaped to correspond with the bulged portion 2 of the door, and these members 25 are provided with screw-threaded openings 26 into which the screws 27 pass, the said screws also passing through the curved portion 24 of the U-shaped member 23. These elements 23 and 24 serve as a brace to assist in receiving the strain consequent to the use of handle-members 25. The handle is made up of the inwardly extending parts 25 that support the hand-portion 28, which has its ends 29 passing into sockets 30 that are formed at the inner side of the members 25. As a consequence, these members 25 being firmly screwed to the door, also firmly hold the hand-portion 28 in position. Preferably this hand portion 28 is made in tubular form, as shown.

The upper edge of the lining 18 is supported and united to the lining of the door by screws 31, which pass freely through openings in the lining, and into screw-threaded bulged portions 32, which are punched in the outer wall of the U-shaped portion 23 in the same manner as are the screw-threaded flanged portions 19 of the member 14.

It will be observed, from the foregoing description, that the U-shaped member is connected to the door by the screws 27, which pass through the curved portion 24, and the lining 18 is supported in position by the screws 30. The outer ends of the U-shaped member 23 are preferably curved as shown at 33 to fit the curve of the flanged portion 2 of the door.

The hinged members 6 are both constructed alike and are both attached to the door in the same manner.

The foregoing improvements furnish means for securing the hinged members 6 to the door, so that the screw means are concealed within the lining of the door and the same is likewise true of the securing means for the handle, both means forming braces for the sheet metal door and both forming means for securing the lining to the door. It will be observed that the lining is not a support for either the hinged members or the members for holding the handle to the door.

In addition to furnishing a construction whereby the securing means is concealed, the construction is economical to assemble, and making a sheet-metal door that is braced and firm.

While we have described in detail many features of these improvements, we desire it to be understood that modifications and changes may be made without departing from the spirit and scope of the invention, so long as the changes and modifications are comprehended within a fair interpretation of the following claims.

Having thus described our invention, what we claim and desire to secure by Letters Patent is:

1. The combination with a stove door, of a hinged element overlapping the stove door, the hinged element having screw-threaded openings, screws passing from the inside of the door into the said openings, and a lining applied to the inner side of the door and concealing the said screws.

2. In a stove door construction the combination of a door, having a laterally extend-

ing flange, a hinged element overlapping the lateral flange, and provided with screw openings extending from its inner side, of screws passing through the said flange and entering the said screw-threaded opening, and a lining at the inner side of the door, for the purpose described.

3. The combination in a stove door construction, comprising a stove door, of an angular-shaped hinged member overlapping the door construction and provided with screw-threaded openings, screws passing through the door construction into the said openings of the hinged element, and a lining applied to the inner side of the door, for the purpose described.

4. The combination of a stove door having an outwardly extending main portion and a laterally extending annular flange, a hinged door element overlapping the said flange and provided with openings extending from its inner side, screws passing through the said flange into the openings, and a lining applied to the inner side of the door, for the purpose specified.

5. An improved door construction comprising a door, consisting of a main portion, provided at its lower side with an inwardly extending L-shaped part having vertical and horizontal legs, of a hinged element provided with screw-threaded openings at its inner side opposite the vertical leg, and screws passing through the vertical leg into the said openings, for the purpose described.

6. An improved stove door construction comprising a main part having an outwardly bulged main part having its periphery with an L-shaped flange having vertical and inwardly extending legs, a hinged element overlapping the vertical leg and having screw-threaded openings extending from its inner side, screws passing through the said flange into the said openings, and a lining applied to the inner side of the door, for the purpose described.

7. An oven door construction comprising a main part having an outwardly bulged main portion, provided at its periphery with an L-shaped portion consisting of vertical and inwardly extending flanges, a hinged element applied to the corners of the door and overlapping the said vertical portion, the hinged element provided with outwardly extending screw-threaded openings, screws passing outward through the said flange into the said openings, and a lining telescoping with the inwardly extending portion, and means securing the lining in position.

8. An improved door construction comprising a main portion provided with a lateral flange, a hinged element overlapping the said flange and provided with inwardly extending screw-threaded openings, a substantially L-shaped member extending across the lower portion of the door, and screws passing through the said flange member and into the openings of the hinged element, for the purpose specified.

9. An improved door construction, comprising an outwardly bulged main portion having an annular flange, a brace member extending transverse the lower part of the door, the brace member having an outwardly extending part in engagement with the inner side of the bulged portion, the lower edge of the brace abutting the annular flange, a hinged element overlapping the said flange and having inwardly extending screw-threaded openings, of screws passing through the said flange and the said brace member into the said openings, for the purpose described.

10. An improved door construction comprising the door, a hinged element applied to the door and having inwardly extending openings, a transversely extending brace applied at the inner side of the door, the said brace having an outwardly extending flange engaging the door, outwardly extending screws passing through the brace and flange and into the said openings; a lining extending over the brace portion, and means for securing the lining in position, whereby the brace portion and fastening means for the hinged element are concealed by the said lining.

11. An improved stove door construction comprising a stove door, a hinged element applied to the stove door and having securing means passing into it from the inner side of the said door, a brace element applied to the inside of the door and secured by the said screws, and a lining located inside of the brace element, and screws passing through the lining outward into the said brace thereby securing it in position, the parts combined for the purpose described.

12. A stove door construction comprising an outwardly bulged stove door, a brace at the lower portion of the door, hinged elements at the lower portion of the door, outwardly extending means for holding the hinged elements in position, and a U-shaped brace at the upper portion of the door, and a lining secured in position by attaching it to the said U-shaped member and the said brace.

13. A stove door construction comprising an upwardly bulged stove door, a brace at the lower portion of the door, a hinged element at the lower portion of the door, the brace and hinged element held in position by the same means, a U-shaped member at the upper portion of the door, a handle at the upper part of the door, and clamping means passing through the U-shaped member and into the handle clamping the parts together, a lining and means for securing the lining in position thus concealing the brace and the U-shaped member.

14. A stove door construction comprising an upwardly bulged portion, a brace at its lower end, a hinged member, means for securing the brace, the door and the hinged member together, a transversely extending member at its upper portion having a flange, a handle at the outer side of the door, clamping screws passing through the flange and into the handle, a lining for the door, and means securing the lining in position, thus concealing the brace and the securing element for the handle, and the hinged element.

15. A door construction comprising an outwardly bulged door, having a horizontally extending brace at its lower portion, hinged elements at its lower portion secured by fastening means passing through the brace and into the hinged elements, and a brace member at the upper portion of the door, the brace member having a flange, handles at the upper portion of the door, clamping means passing through the flange into the handle, a lining for the door, and means passing through the lining and into the said brace elements, for the purpose specified.

16. A stove door construction comprising an outwardly bulged part, an inwardly extending and transversely projecting brace member at its upper portion, the brace member having a lateral flange for the inner side of the door, a handle portion, and clamping screws passing through the said flange and the door into the handle portion.

17. A stove door construction comprising an outwardly bulged part, a transversely extending U-shaped portion located at the inner side of the upper portion of the door, the upper end of the U having an upwardly extending flange fitting the inner side of the door, a handle located outside of the door, and clamping screws passing through the flange into the said handles.

In testimony whereof, we hereunto affix our signatures.

HENRY MOECKER, JR.
THEODORE THOMPSON.