

A. E. BRONSON, SR.

STEEL STOVE.

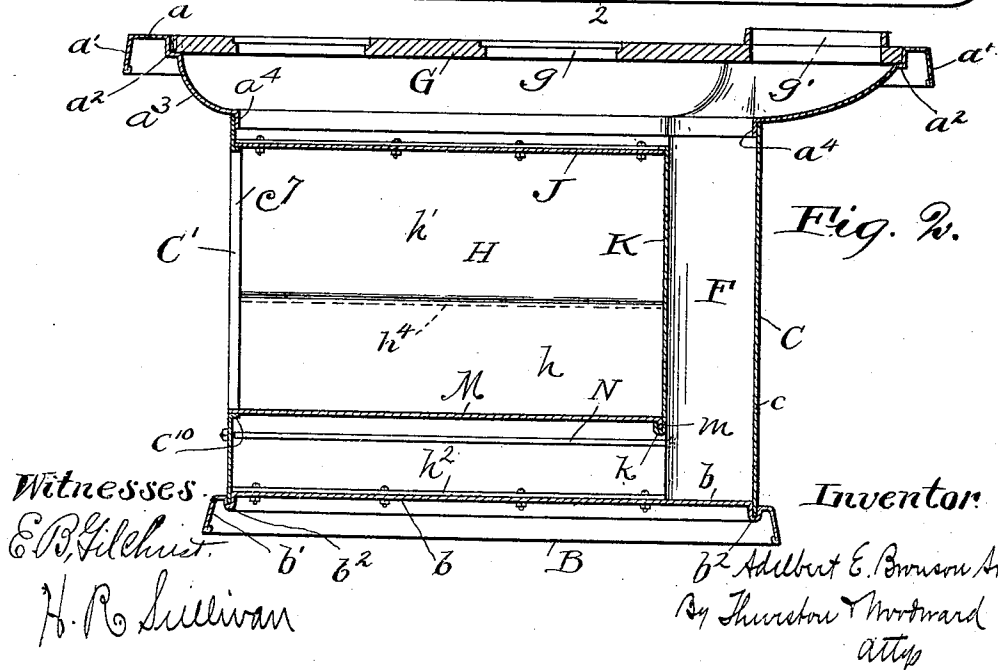
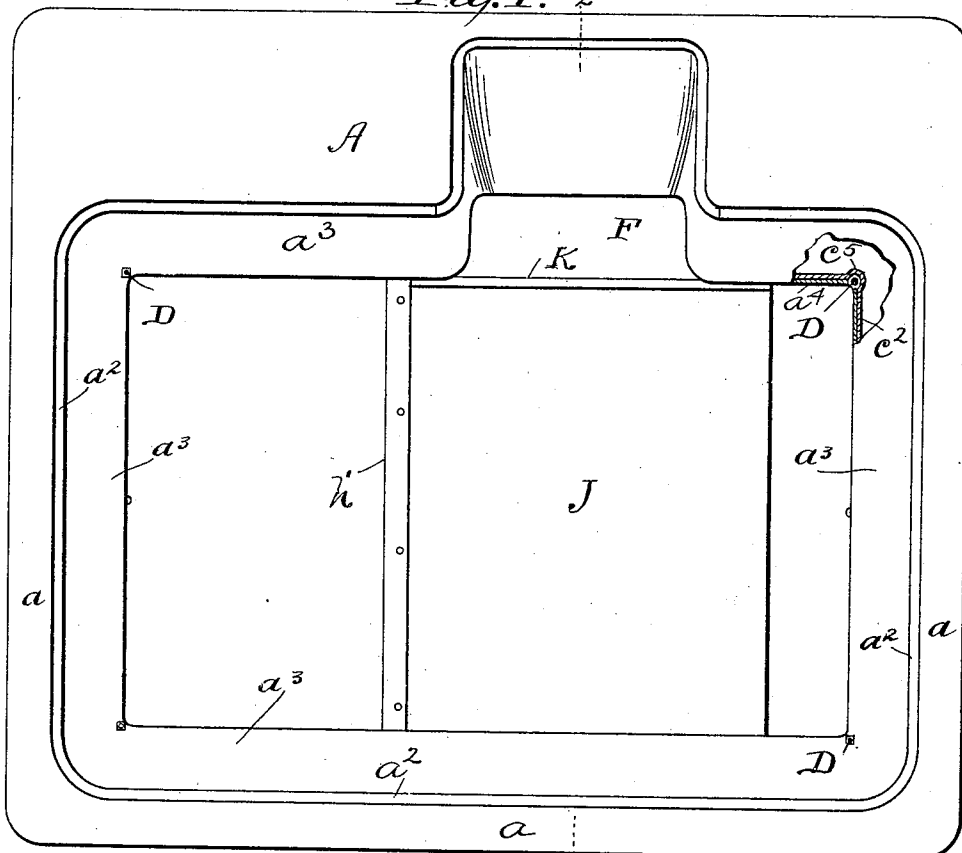
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2 SHEETS—SHEET 1.

Fig. 1. 2



Witnesses.

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UNITED STATES PATENT OFFICE.

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STEEL STOVE.

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To all whom it may concern:

Be it known that I, ADELBERT E. BRONSON, Sr., a citizen of the United States, residing at Cleveland, in the county of Cuyahoga and State of Ohio, have invented a certain new and useful Improvement in Steel Stoves, of which the following is a full, clear, and exact description.

The object of this invention is to produce a sheet metal kitchen stove which will be cheap and durable.

The invention consists in the combinations of parts shown in the drawings and hereinafter described and pointed out in the claims.

In the drawing, Figure 1 is a plan view of a stove embodying the invention. Fig. 2 is a sectional end view in the plane of line 2—2 on Fig. 1. Fig. 3 is a sectional plan view in the plane of line 3—3 on Fig. 4. Fig. 4 is a front view partly in section in the plane of line 4—4 on Fig. 3.

Referring to the parts by letters, A represents the top member, B the bottom member, and C the body part of a stove embodying the invention, all made of sheet steel cut and bent into the forms shown. The bottom member B has a raised center b , and a down-turned marginal flange b' . There is preferably in said member B, a groove b^2 of which the marginal edge of the raised portion b forms one wall.

The stove body, which includes the front, back and two ends, is made of two pieces C, C'. The piece C is bent so as to form the two ends c' , c^2 , and back c , which is at right angles to said ends. The front edges of the two ends are bent toward each other to form the two flanges c^3 , c^4 , which are parallel with the back. At the corners of this member the metal is bent outward to form the hollow columns c^5 . These columns permit the expansion and contraction of the body by the various heats it is subjected to without causing any substantial variation in the size or shape of the body as an entirety. They also serve as housings to protect the vertical bolts D, whose function and disposition will be presently described; and they likewise improve the appearance of the stove.

The front member C' has through it openings to the oven, the ash pit and the fire pot, the marginal edges of these openings being preferably bent inward to form narrow

flanges c^6 , c^7 . The vertical edges of the front member are secured by stove bolts c^8 to the flanges c^3 , c^4 . The top member A is formed of a single plate from which the middle portion has been cut, and the remainder pressed into substantially the form shown. The outer edges of this plate are turned down to form a flange a' . Just inside of this flange is a horizontal part a which forms a part of the stove top. Along the inner margin of this horizontal part the metal is bent downward and then inward horizontally to form what amounts to a rabbeted groove a^2 . The stove top G is fitted to and is supported in this rabbeted groove. Just within this groove is a downwardly and inwardly curved portion a^3 around whose inner edge is a down turned flange a^4 . This flange fits within the open top of the body,—the adjacent part of the curved portion a^3 being substantially horizontal so that it may rest upon the top of said body. In assembling these parts, the bottom edges of the body are set into the groove b^2 . The flange a^4 of the top member A is fitted into the top of the body. Four vertical bolts D pass through the bottom member B, then up through the several tubular columns c^5 and through the part a^3 just above said columns. When the nuts on these bolts are tightened up the parts specified are held securely in the described relation to one another.

The top G, before mentioned, may be made of cast iron, and may be provided with the required lid-covered opening g , and preferably with a flanged opening g' over which a stove pipe may be secured.

The oven is formed of several sheet steel plates as follows. The left end H is formed of two plates h , h' . The plate h has a flange h^2 on its lower edge which rests upon the bottom member B, to which it is secured by stove bolts. This plate is bent as shown to form the ledge h^3 . Along its upper edge this plate is bent to form an upwardly opening cup joint h^4 which receives the lower edge of the plate h' . These two plates not only form a part of the oven, but they serve also as the right hand walls of the ash pit and the combustion chamber. The upper edge of the part h , which lies at one side of the ash pit, is about at the level of the grate, and this sheet will not, therefore, be exposed to injurious heat, but the sheet h' , at the

side of the combustion chamber, will be subjected to the destructive influence of the heat, even though lined, to a greater degree than will the part *h*, and is more exposed to deterioration than is said part *h*. It is for this reason that this particular vertical wall is made of two pieces instead of one, because, if the upper part *h'* is burned out, it may be easily replaced by another similar part.

The top and right end plates of the oven are formed of one piece *J*. The lower edge of the right end is a considerable distance above the bottom member *B* and is turned inward and upward to form a groove *j*. The back oven plate *K* has its lower edge in the same plane with the lower edge of the right end, and is also turned inward and upward to form a groove *k*. The rear plate *K*, near its vertical edges is bent to form a rearwardly projecting bead *k'*. The grooves in front of these beads receive the rear edges of the two end plates of the oven; and the rearwardly projecting beads fit into vertical grooves *c'* pressed into the rear plate *c* of the body. This rear plate is pressed rearwardly so as to form the vertical flue pocket *F*; and the rear oven plate *K* serves to cover the front of this pocket and to thereby complete the vertical flue. The upper edges of the plates *h'* and *K* are bent over upon the horizontal part of the plate *J*, and the flange of the plate *h'* secured thereto by stove bolts, and thereby downward movement of said oven plates independent of plate *J* is prevented. Four horizontal bolts *N* pass through the front and rear members of the body and tie them together. The top oven plate rests upon the two upper bolts which lie close in the upper corners of the oven, whereby it receives the greater portion of its support. It will be noted, by reference to Fig. 4, that the upper corners of the oven opening in the front of the stove, are not cut out squarely, but are rounded as shown, at the upper left hand corner, so as to leave metal through which the upper bolts *N* pass. The bottom oven plate *M* has on its rear edge and right edge downwardly turned flanges *m*, *m'*, which respectively enter the grooves *k* and *j*, while the left end of said bottom plate rests on the ledge *h*³. The top oven plate and the two end oven plates bear against the inwardly turned flange *c'* around the oven opening through the front member *C'* of the body, and the front edge of the bottom plate *M* rests upon the horizontal flange *c*¹⁰ along the lower edge of said opening.

It will be noted that the described stove may be made wholly of sheet steel cut and pressed into the desired shape,—only nine pieces being required for making a complete stove exclusive of the doors for the ash pit, fire pot and oven, and the top *G*. These nine

pieces, together with a few stove bolts, make a stove which is quite as efficient as any cast iron stove, is much cheaper and much lighter, much more durable, and much less liable to become accidentally injured.

Having described my invention I claim:

1. The combination of a bottom member having a groove in its top, a body member whose lower edge is seated in said groove and which has at its corners integral outwardly bent tubular columns, a top member having an open center provided with a down turned marginal flange which fits into the top of said body member and which has outside of said flange an outwardly and upwardly curved portion which rests upon the top of said body part, and vertical bolts passing through the outwardly and upwardly curved part of the top member down through said tubular columns and through the bottom member.

2. The combination of a bottom member provided with upward projections, a body member made of two pieces, to wit, (1) one piece forming the back, two sides, two front flanges and integral outwardly bent tubular corner columns, and (2) a front piece bolted to said flanges, said body member resting upon the bottom plate in engagement with said projections, and a top member having an open center bounded by a downwardly turned marginal flange which fits into the top of said body member, and means binding said parts together.

3. The combination of a bottom member provided with upward projections, a body member made of two pieces, to wit, (1) one piece forming the back, two sides, two front flanges and integral outwardly bent tubular corner columns, and (2) a front piece bolted to said flanges, said body member resting upon the bottom plate in engagement with said projections, and a top member having an open center bounded by a downwardly turned marginal flange which fits into the top of said body member, and a vertical bolt passing through said top member and bottom member and through each of said tubular corner columns.

4. A sheet metal stove comprising a top member, a bottom member, and a body member secured between said top and bottom members, said body member comprising a front, back and two ends and having in its back a rearwardly pressed flue pocket and on opposite sides of said flue pocket rearwardly pressed vertical beads, combined with a back oven plate having near its ends rearwardly pressed beads which are fitted into the beads in the back, and end oven plates whose rear edges are fitted into the beads of the back plate, and whose front edges engage with the front member of the body, and top and bottom oven plates, and bolts extending horizontally through the front and back members of the body, and the two upper bolts

passing through the oven in engagement with the under side of the top plate thereof.

5. A sheet metal stove comprising a top member, a bottom member, and a body member secured between said top and bottom members, said body member comprising a front, back and two ends and having in its back a rearwardly pressed flue pocket and having in its front an oven opening provided with rearwardly bent marginal flanges, combined with an oven within said stove comprising a back plate which lies against the back plate of the body member spanning said flue pocket, a top oven plate, a bottom oven plate and two end oven plates which four last mentioned oven plates engage with the back oven plate at their rear ends and with the flange around the oven opening at their front ends,—the left oven plate being supported by the bottom member of the stove, and bolts extending through the front and back members of the stove to draw them together, the two upper bolts passing through the oven in engagement with the under side of the top oven plate, whereby they assist in supporting said oven.

6. A sheet metal stove comprising a top member, a bottom member and a body member secured between said top and bottom members, said body member having in its back a rearwardly pressed flue pocket and on opposite sides of said flue pocket rear-

wardly pressed vertical beads, combined with a back oven plate having near its ends rearwardly pressed beads which are fitted into the beads in the back and having its lower edge turned inward and upward, a sheet metal piece bent to form the top and right end oven plates, the rear edge of said end plate being extended into the bead of the back oven plate, and the lower edge thereof being turned inward and upward, a left end oven plate which rests upon and is secured to the bottom member of the stove and is bent to form the ledge h^3 and has along its upper edge a flange which is turned over onto the top oven plate, bolts extending horizontally through the front and back members of the stove body, said bolts lying in the upper corners of the oven in engagement with the under side of the top plate thereof, and a bottom oven plate which has on its rear and right edges downwardly turned flanges which engage with the upwardly turned edges of the back and right end oven plates, and which rests at its left end upon said ledge h^3 .

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

ADELBERT E. BRONSON, Sr.

Witnesses:

E. B. GILCHRIST,

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