

(No Model.)

R. M. CLARK & G. E. GILHAUS.
STOVE OR RANGE.

No. 516,628.

Patented Mar. 13, 1894.

Fig. 1.

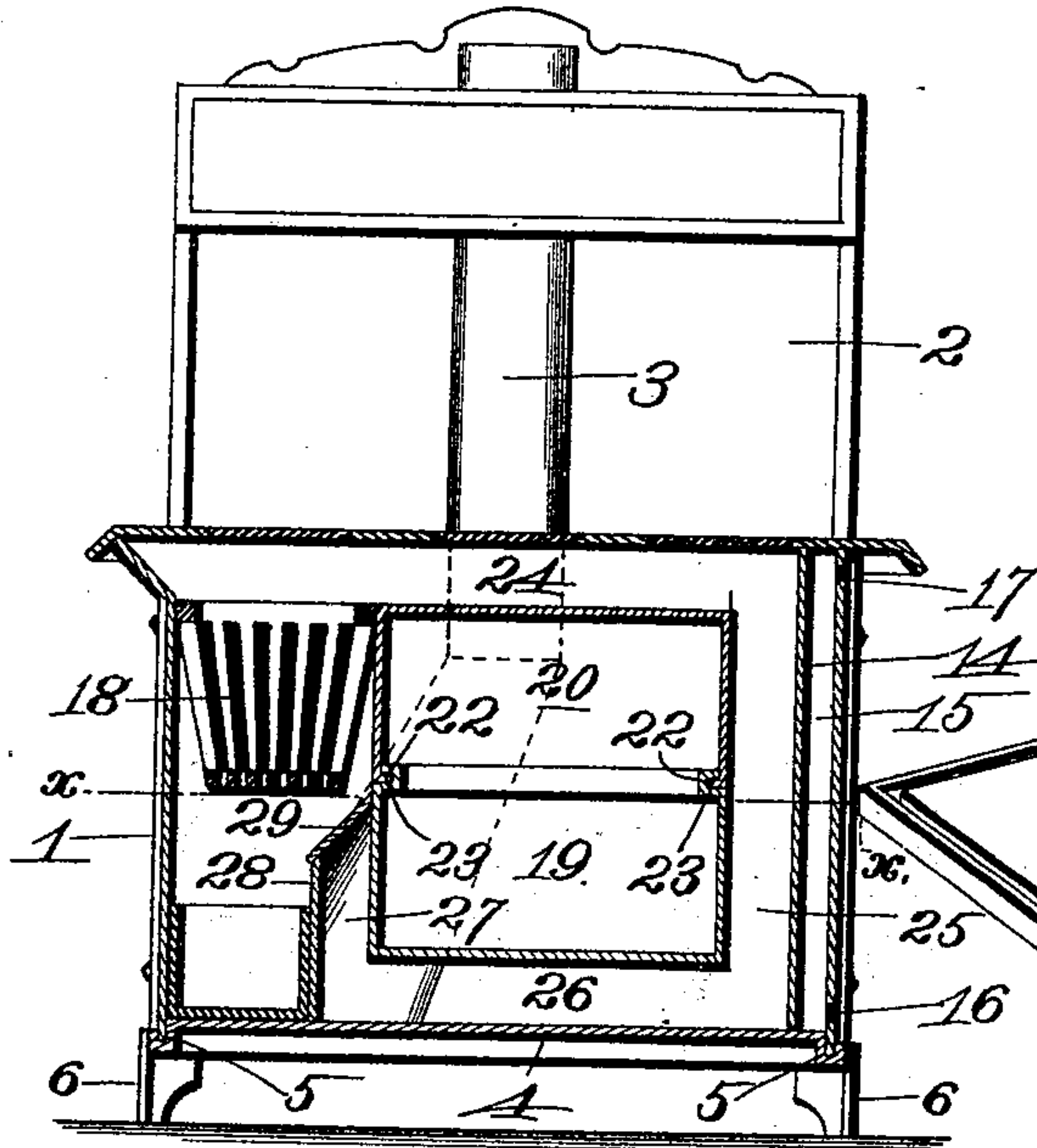


Fig. 3.

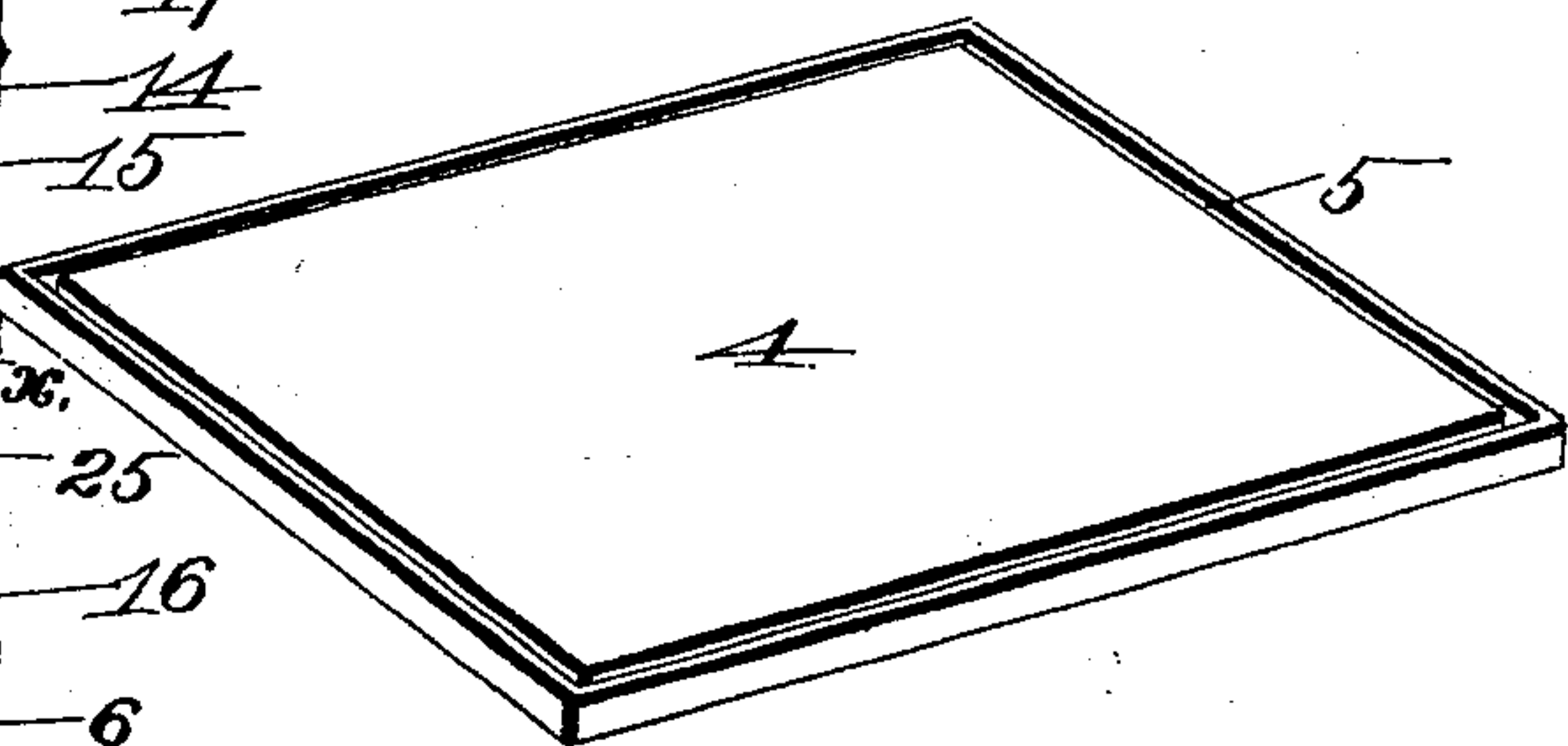


Fig. 2.

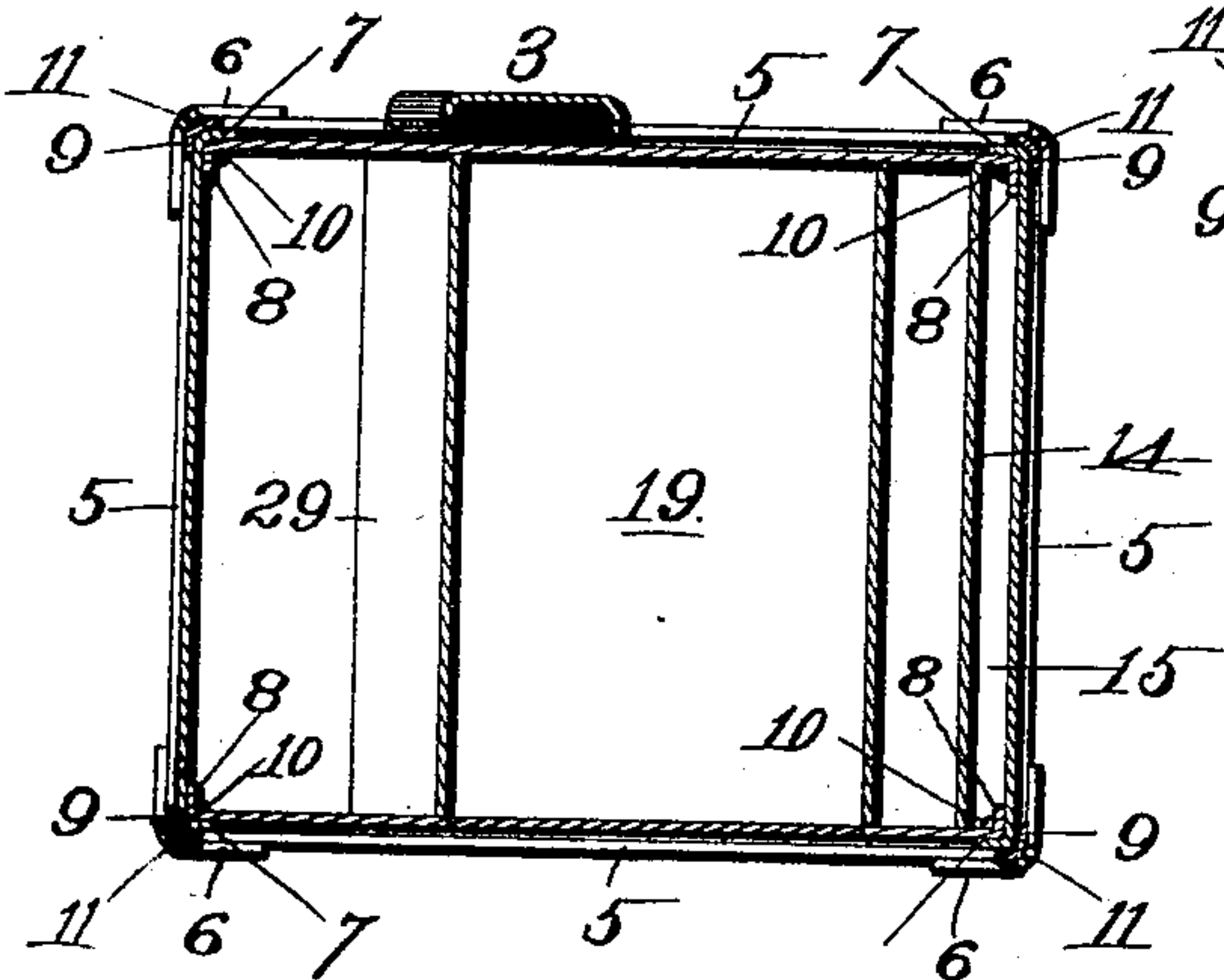


Fig. 4.

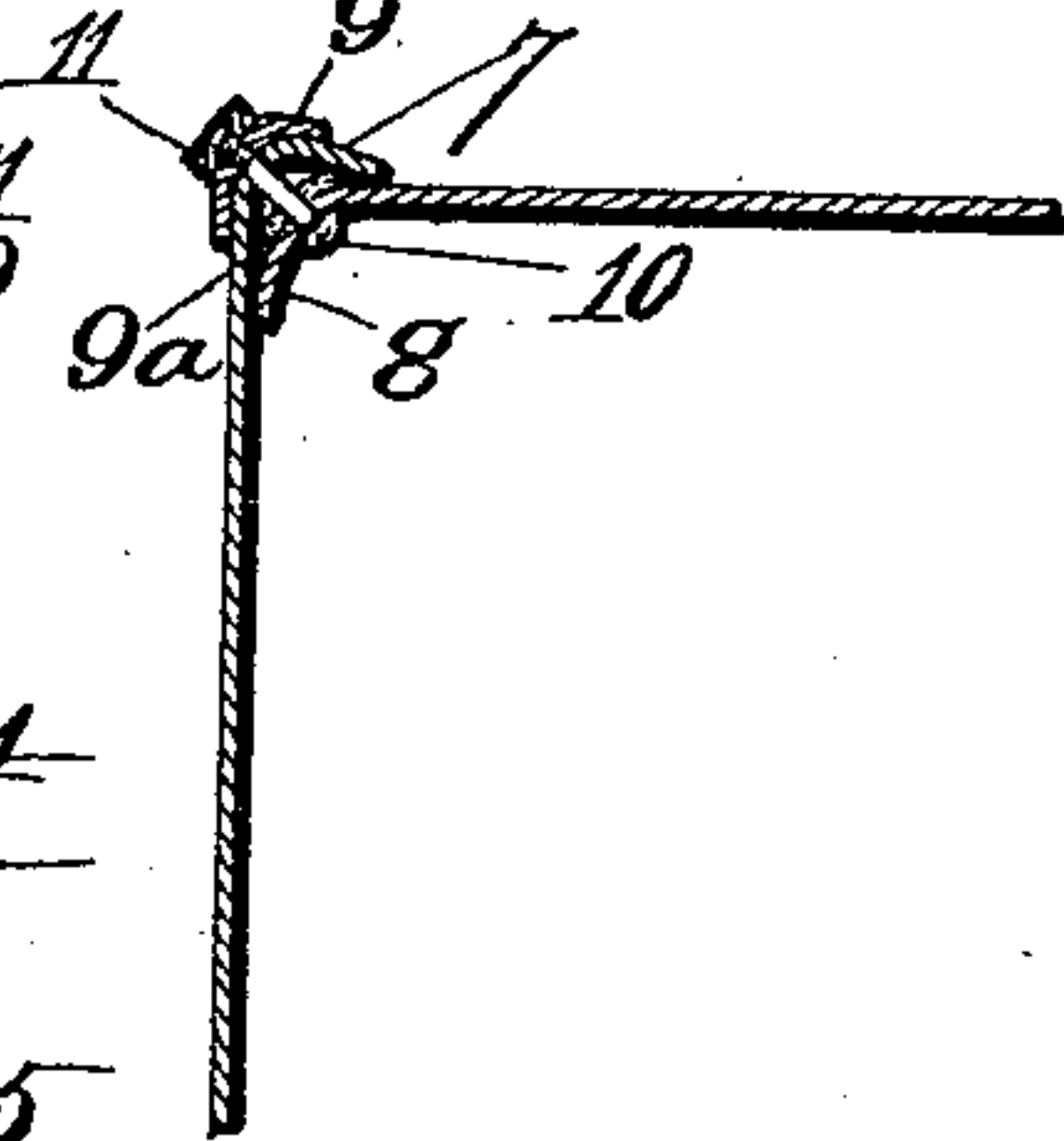
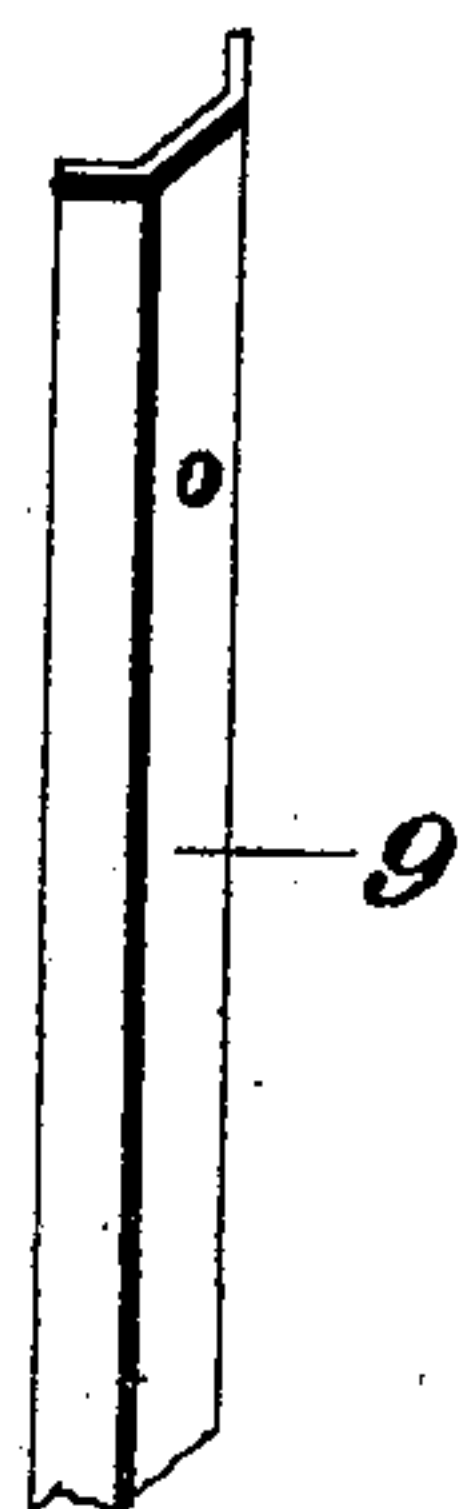


Fig. 5.



Witnesses:

Wm. H. Thompson
And Fitzpatrick.

Inventor:

R. M. Clark & G. E. Gilhaus.

By: Higdon & Higdon
Attys.

UNITED STATES PATENT OFFICE.

ROSWELL M. CLARK AND GEORGE E. GILHAUS, OF KANSAS CITY, MISSOURI;
SAID GILHAUS ASSIGNOR TO SAID CLARK.

STOVE OR RANGE.

SPECIFICATION forming part of Letters Patent No. 516,628, dated March 13, 1894.

Application filed February 3, 1893. Serial No. 460,874. (No model.)

To all whom it may concern:

Be it known that we, ROSWELL M. CLARK and GEORGE E. GILHAUS, of Kansas City, Jackson county, Missouri, have invented certain new and useful Improvements in Stoves or Ranges, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming a part hereof.

Our invention relates to cooking stoves, ranges and other similar heating structures, and the objects of our invention are to provide an improved oven without the use of rivets; and also to generally improve the construction of the class of stoves or ranges to which our invention relates.

To the above purposes, our invention consists in certain peculiar and novel features of construction and arrangement, as herein- after described and pointed out in the claims.

In order that our invention may be fully understood, we will proceed to describe it with reference to the accompanying drawings, in which—

Figure 1, is a vertical longitudinal section of a stove constructed in accordance with our invention. Fig. 2, is a horizontal sectional view taken on the line $x-x$ of Fig. 1, and with the ash-pan removed. Fig. 3, is a detail perspective view of the stove bottom. Fig. 4, is a detail horizontal section, showing the manner of forming the vertical air-tight joints at the corners of the stove-body. Fig. 5, is a detail perspective view of one of the vertical corner castings, to secure the vertical margins of the walls firmly together.

In the drawings, 1 designates the body of the stove which is preferably of rectangular form as shown, and the back wall of which is preferably extended upward as shown at 2, to support the stove pipe 3. The bottom 4 of the stove at its side and end margins is bent vertically downward and then outwardly and upwardly in U-form, and the lower margins of the side and end walls of the stove rest and are supported in the annular groove or channel 5 thus formed. The legs 6 are secured to the lower corners in any suitable manner. The walls of the stove are of sheet metal, and the adjacent margins of the end walls and the front and rear walls, are bent

to form obtuse and acute angles 7 and 8, the acute angle portion being preferably at the outside as shown in Fig. 4; an angle plate 9 is now fitted vertically against the outer plate, and a sheet of asbestos 9^a or other suitable packing material impervious to air, is interposed between the angle plate and the outer side of the angle portion 8. The angle portions 7 and 8, asbestos packing 9^a and angle plate 9, being provided with suitable aligned openings near their upper and lower ends, bolts 10 are inserted through said openings from the inner side, and clamping nuts 11, engage the projecting ends of said bolts, and force the angle portions 7 and of the walls of the stove, to assume the position shown in Fig. 2, at the corners of the stove body, and the packing interposed between the outer angle portion 8 and the angle plate 9, makes a perfectly air tight joint.

The stove top is constructed and arranged in the usual manner, and at one end of the stove, an interior wall or partition 14 is provided, which extends vertically from the top to the bottom of the stove body, and from front to rear of the same. This interior wall or partition, is placed parallel to and at some distance from the end wall of the stove body, thus leaving a cold air space 15, at one end of the stove body. One or more openings 16 are formed in the lower part of the adjacent end wall and communicate with the air space 15, and one or more openings 17 are formed in the end wall at the upper end of the air space 15; thus the air enters through the lower holes 16, passes upward through the air space and escapes out of the upper holes 17, and radiation of heat from the stove is reduced to the minimum.

In the opposite end of the stove body is located the fire-pot 18, which is composed of the usual downwardly and inwardly extending bars of fire-brick or other refractory material, and the usual grate is located at the bottom of the fire-pot.

19 designates the oven, which is composed of an upper and a lower section. To form the oven 19 the upper section 20 is bent vertically downward at the desired points, and the lower margins are bent inward to form the horizontal flanges 22—22. The lower sec-

tion is bent vertically upward at suitable points, and the upper margins are bent inwardly to U-shape, to form the horizontal grooves 23—23, in which the flanges 22—22 of the upper sections are adapted to be secured, or vice versa; thus forming an oven without the necessity of using rivets, and also an oven which can be readily set up or removed from the stove-body. The inwardly extending margins of the lower section of the oven also form a support for the oven itself, not shown. The oven is located about centrally within the stove body, and a hot air passage 24 thus extends from the fire chamber and between the top of the oven and the top of the stove, a second air passage 25 also extends vertically between the interior wall or partition 14 and the corresponding end of the oven, and also from the top to the bottom of the stove, a third passage 26 extends between the stove bottom and the bottom of the stove, and this latter passage communicates with the short vertical passage 27, which extends between that end of the oven which is adjacent to the fire chamber and the wall 28 of the ash pit. The upper end of this short passage 27, is closed by a plate 29, which inclines downwardly and away from the point of junction of the oven wall with the lower end of the fire-pot, and the lower end of the said plate projects forwardly over the upper edge of the wall 28 of the ash-pit. The lower end of the smoke pipe 3 inclines laterally, and opens into the passages 26 and 27 through the rear wall of the stove body, thus it will be seen that a direct draft passage nearly surrounds the oven.

From the above description, it will be seen that we have produced a stove or range, which is simple, durable, and perfectly air-tight of construction, and easily put together.

Having thus described our invention, what

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

1. In an improved stove, an oven composed of an upper and a lower section, the upper section having downwardly extending side walls, and inwardly and horizontally extending flanges at the lower margin of said side walls, and the lower section having upwardly extending side walls and horizontally arranged grooves at the upper margins of said side walls, in which the flanges of the upper section are engaged, substantially as described.

2. A stove, comprising the vertical end and side walls, having adjacent vertical margins bent to form the overlapping obtuse and acute angle portions 7 and 8, and a corner angle-plate 9 adapted to fit against the outer side of the acute angle-portion of each plate, and bolts 10 adapted to be passed through each pair of obtuse and acute angle-portions, and also through the angle-plates 9, and clamping-nuts 11, engaging the projecting ends of said bolts and adapted to be screwed against the angle-plates to cause the overlapping angle-portions 7 and 8, to be forced tightly together to form an air-tight joint, substantially as set forth.

3. In a stove, the combination with side and end walls having engaging angle-portions 7 and 8 at their vertical margins, of a bottom having its marginal portion bent to form an annular groove in its upper side to receive the lower margins of the engaging side and end walls, substantially as set forth.

In testimony whereof we affix our signatures in the presence of two witnesses.

ROSWELL M. CLARK.
GEORGE E. GILHAUS.

Witnesses:

MAUD FITZPATRICK,
M. P. SMITH.