R. R. ROBERTSON & G. F. HAUF.

STOVE.

APPLICATION FILED FEB. 17, 1916.

1,222,325.

Patented Apr. 10, 1917.

3 SHEETS—SHEET 1.

Fig. 2.

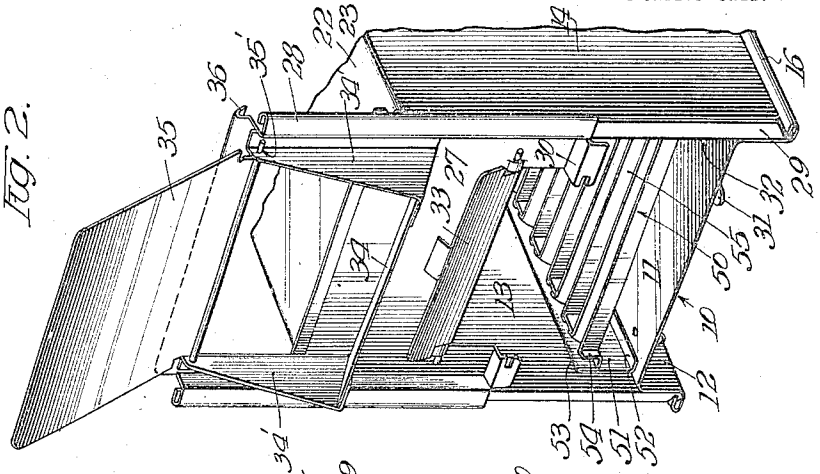
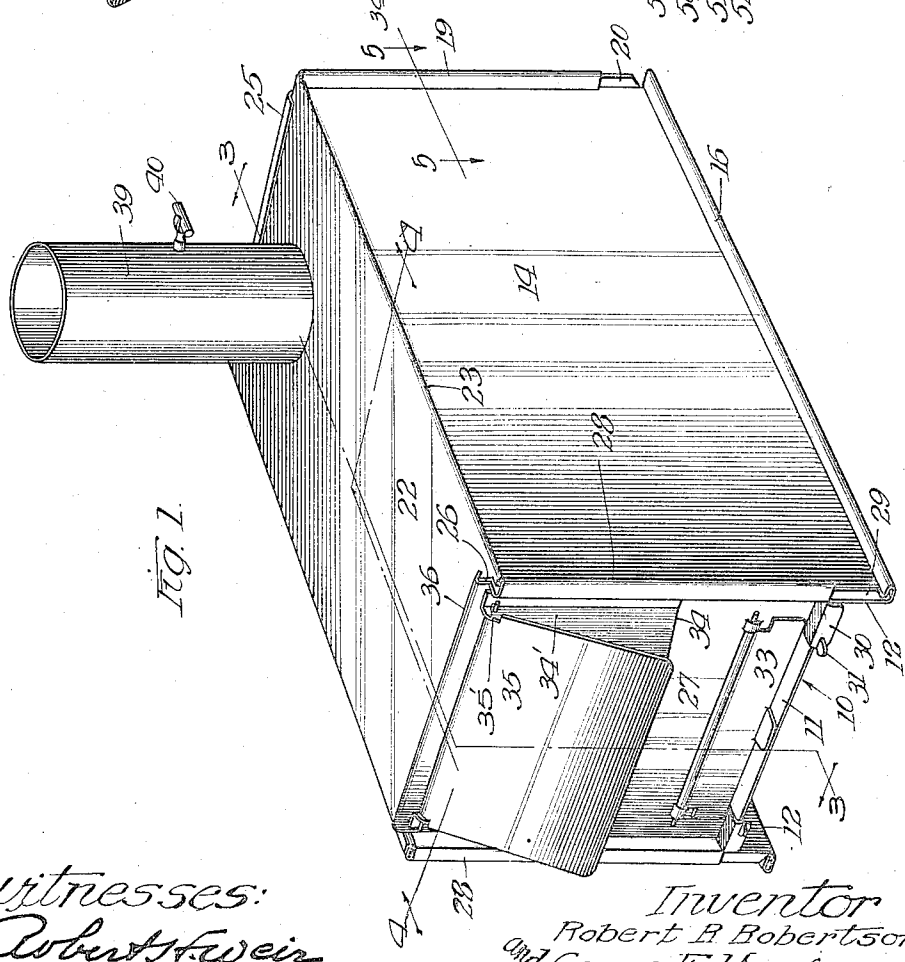


Fig. 1.



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3 SHEETS—SHEET 2.

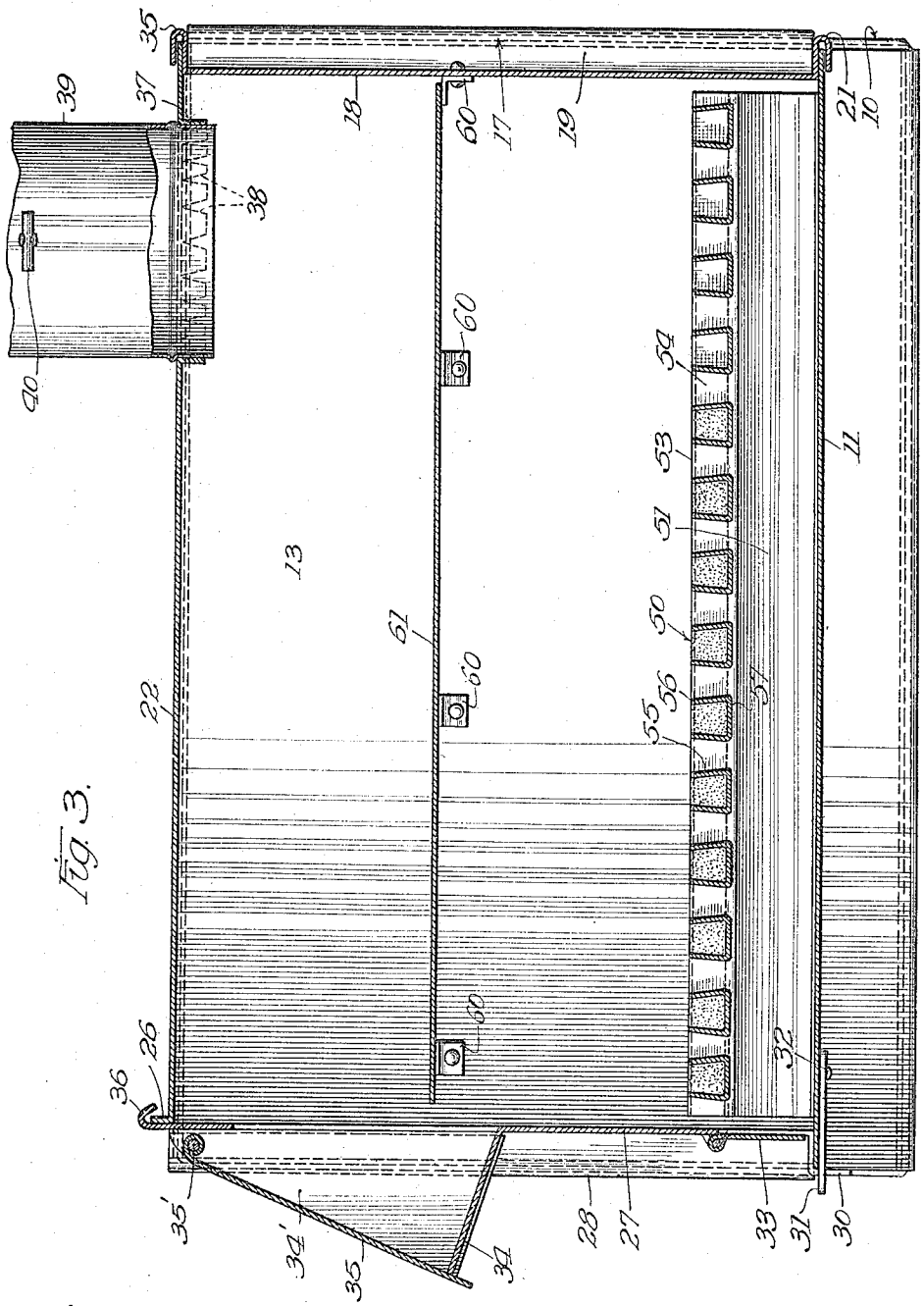


Fig 3.

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3 SHEETS—SHEET 3.

Fig. 4.

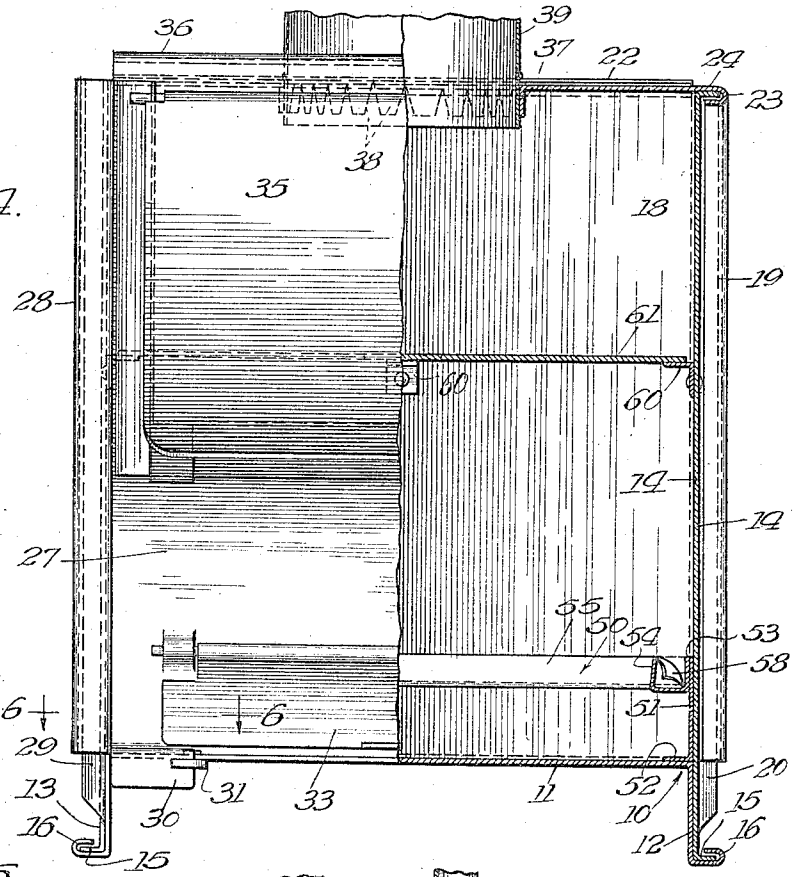


Fig. 5.

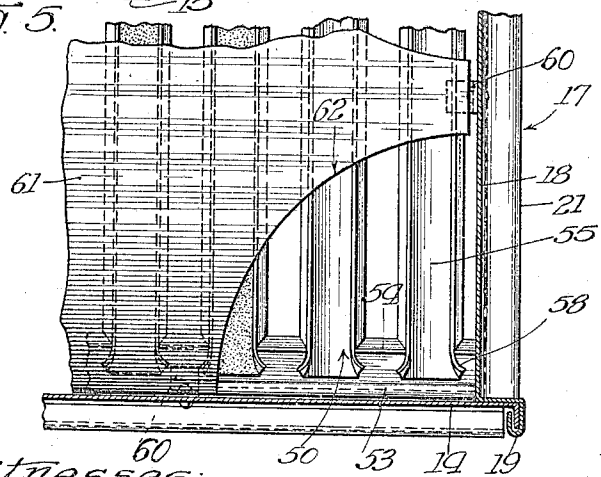
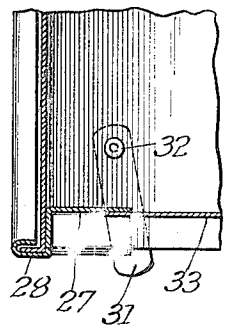


Fig. 6.



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UNITED STATES PATENT OFFICE.

ROBERT R. ROBERTSON, OF LA GRANGE, AND GEORGE F. HAUF, OF CHICAGO, ILLINOIS, ASSIGNORS TO ROBERTSON BROTHERS MANUFACTURING COMPANY, OF CHICAGO, ILLINOIS, A CORPORATION OF ILLINOIS.

STOVE.

1,222,325. Specification of Letters Patent. Patented Apr. 10, 1917.

Application filed February 17, 1916. Serial No. 78,838.

To all whom it may concern:

Be it known that we, ROBERT R. ROBERTSON and GEORGE F. HAUF, citizens of the United States, respectively residing at La Grange, in the county of Cook and State of Illinois, and at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Stoves, of which the following is a specification.

Our invention relates to improvements in stoves and more particularly to a heating and cooking stove of relatively small size which may be readily knocked down or erected by one having little or no mechanical ability or ingenuity.

One of the objects of our invention is the provision of such a stove which may be collapsed and packed into a small compact bundle for transportaiton, and when either collapsed or erected will be sturdy and rigid to withstand hard service.

Another object of our invention is to reduce the expense of manufacturing articles of this class, so that they may be produced in large quantities at a relatively low cost, which fact together with the other advantages inherent in the stove makes it particularly adapted for army and camping use.

A further object of our invention is to provide a stove in which the grate bars are so constructed as to withstand a high temperature for long periods without warping or distortion. Although intended primarily for heating purposes, it is equally useful as a cooking stove, having a flat upper surface upon which cooking utensils may be placed and a compartment within the stove for baking.

Still other objects of our invention will become apparent to those skilled in the art from a consideration of the following description and drawings, wherein:—

Figure 1 is a perspective view of the stove completely erected and ready for use.

Fig. 2 is a fragmentary perspective similar to Fig. 1, with the front wall or door part partially removed showing the interior of the stove.

Fig. 3 is a vertical longitudinal sectional view on the line 3—3 of Fig. 1.

Fig. 4 is a sectional view on the line 4—4 of Fig. 1.

Fig. 5 is a fragmentary sectional view on the line 5—5 of Fig. 1, and

Fig. 6 is a fragmentary sectional view on the line 6—6 of Fig. 4.

The stove comprises in its entirety but nine separable parts, all of which, when the stove is collapsed, may be readily stacked in compact form, for transportation in large numbers. Each part is connected or separated from the other part without the use of any tools whatever and may be quickly set up or collapsed by one having but little mechanical ingenuity, the manner of collapsing or assembling being obvious from the character of the parts and therefore not requiring directions or instructions.

A base or bottom section indicated in general by the numeral 10 comprises a flat, rectangular plate 11 having its longitudinal edges downturned to form legs 12 which elevate the bottom of the stove a few inches above the ground and at the same time brace the base member to prevent bending or warping.

The opposite side members 13 and 14 are exact duplicates of each other and comprise flat rectangular metal plates with their peripheral edges bent outwardly at right angles to the plate to reinforce the same and provide means for attachment to the other portions of the stove. The outwardly turned bottom edges 15 form slides for engagement with the inturned edges 16 of the base legs 12 which are shaped to form grooves or channels within which the edges 15 readily slide lengthwise. The side members are of the same length as the base members so that when slid into place, either from the front or the back, the ends are flush. When in place the lower portions of the sides bear against the wide legs 12, materially adding to the strength and rigidity of the entire structure.

The rear wall indicated in general by the numeral 17 has a flat central portion 18 of a height and width equal to the interior dimensions of the stove when erected. Its marginal portions are formed rearwardly or outwardly, the sides being formed into chan-

nels, as at 19, to slidably engage the outturned lip 20 on the rear edges of the side walls 13 and 14. The bottom edge of the rear wall 18 is turned outwardly and then backward upon itself to form a channel 21 which engages the rear edge of the base plate 11. Obviously to attach the rear wall it is necessary to slide the side walls rearwardly somewhat out of their normal positions and then slide the rear wall 18 downwardly on the guides 20 into place, after which the side and rear wall structure, as an entirety, is slid forward until the channel 21 engages the rear edge of the base 11.

The next piece, taken in the order in which the parts are assembled, is the top 22 which is a flat sheet metal plate having its longitudinal edges turned in, as at 23, to form channels for sliding engagement with the out-turned lips 24 on the upper longitudinal edges of the side walls. This plate is slid from the front rearwardly upon the guiding lips 24 until its rear edge engages with the channel 25 formed at the upper end of the back member, thereby locking the back plate in position and preventing its vertical displacement. The front edge of the top plate 22 is upturned at right angles, as at 26.

The front wall 27 has rearwardly and outwardly flanged side channels 28 which slidably engage the outturned lips 29 on the forward edges of the side walls 13 and 14. When slid downwardly into place on the guiding lips 29 the bottom edge of the front wall rests on the base 11 with two integral projecting L-shaped legs 30 overlying the edge and extending below the same. A pair of locking levers 31, pivoted as at 32, to the underside of the front edge portion of the base 11 are moved into engagement with slots formed in the side edges of the L-shaped legs 30, thereby locking the front member from vertical displacement and preventing detachment of any of the other wall members.

Near the bottom of the front wall 27 is provided an aperture over which is pivotally hung a door 33 which may be opened to increase the draft, (there being normally a small opening under the bottom edge of the door) or to remove ashes from beneath the grate. The upper portion of the front wall is cut away to provide an opening for communication with the interior of the oven or heating chamber, the bottom wall of the aperture being flared outwardly and upwardly, as at 34, forming with the wedge shaped sides 34′ a sort of mouth over which lies the door 35. The door is pivoted at 35′ on a rod which passes through ears projecting from the sides 34′. The extreme upper edge of the front member 29 is angled over and rearwardly, as at 36, to overlie the upturned end 26 of the top wall. As a result of the interengaging wall edges the stove is practically wind and weather proof.

An opening is formed at 37 in the top wall 22 of the oven, near the rear end, the marginal portion being slotted, and bent downwardly into a series of wings 38 for frictional engagement with the detachable stove pipe 39. For convenience we have mounted a damper with a projecting handle 40 in the stove pipe to aid in controlling the draft.

The grate member, indicated in general by the numeral 50 comprises a pair of longitudinal side members 51 having inturned feet 52 which, when in place, rest upon the base 11 of the stove, the upper ends being doubled back upon themselves, as at 53, then inwardly and upwardly as at 54. The upturned portion 54 of the side members are cut away at suitable intervals, to form dovetailed openings, narrower at the top than at the bottom, to receive the transverse channel bars 55. These bars are U-shaped, being narrower at the top 56 than at the bottom 57. After inserting the bars in the dove tailed openings in the side members the corners are bent or flared over, as at 58, to lock them in place. The upturned members 54, of the side members of the grate, are angled slightly inwardly so as to make the channel openings at the top smaller than at the base, as is the case with the cross bars, for the purpose to be described. Such a grate construction provides longitudinal and transverse channels having restricted mouth openings which may be filled with non-combustible material, such as fire-clay, or the like. On the other hand, if it is of importance to reduce the weight of the grate for transportation, the fire-clay filling may be omitted and the ashes or residue from the first fire built in the stove, because of the grate formation, will pack into the channels and thus protect the metal of the grate from reaching such a temperature as would result in warping or twisting.

A series of L-shaped brackets 60 may be removably secured by screws at a suitable height on the inner face of side walls 13 and 14 to support a shelf 61, forming in the upper portion of the oven a chamber which may be used for baking and the like, and which is readily accessible through the door 35. The rear edge of the plate 61 is cut away at its corners as at 62 to provide a passage for the smoke and gases upwardly from the grate to the chimney 39.

Whereas we have illustrated and described a single embodiment of our invention, it is obvious that various changes may be made without departing from the scope of the appended claims.

Having described our invention, what we claim is:

1. In a collapsible sheet metal stove, the combination of a base member and side

members, and end member in vertical sliding engagement with the side members, and means carried by the bottom member for engagement with the end member to prevent vertical displacement thereof.

2. In a collapsible sheet metal stove, the combination of separable base member and side walls, a grate adapted to rest upon the base, but of a length less than the base, and end walls slidably engaging the side walls and having portions thereof formed inwardly to rest upon the base and to prevent endwise displacement of the grate.

3. In a collapsible stove, the combination of a base member having its longitudinal sides turned down at right angles to form longitudinally extending supporting legs, the marginal edge portion of each leg being formed outwardly and doubled back to form a channel, side members having their lower marginal edge portions flanged outwardly for longitudinal sliding coöperation with the base channels, said side members bearing against the outer faces of the leg, and a top member joining the upper edge of the side members and securing them in spaced relation.

4. In a collapsible stove, the combination of a base member having its longitudinal sides turned down at right angles to form longitudinally extending supporting legs, the marginal edge portion of each leg being formed outwardly and doubled back to form a channel, side members having their lower marginal edge portions flanged outwardly for longitudinal sliding coöperation with the base channels, said side members bearing against the outer faces of the legs, each side member having its ends flanged outwardly, end members having channels formed at their vertical edges for vertical sliding coöperation with the end flanges of the side members, and a top member joining the upper edges of the side members and securing them in spaced relation.

5. In a collapsible stove, the combination of a base member having its longitudinal sides turned down at right angles to form longitudinally extending supporting legs, the marginal edge portion of each leg being formed outwardly and doubled back to form a channel, side members having their lower marginal edge portions flanged outwardly for longitudinal sliding coöperation with the base channels, said side members bearing against the outer faces of the legs, each side member having its ends flanged outwardly, end members having channels formed at their vertical edges for vertical sliding coöperation with the end flanges of the side members, the upper edges of the sides being flanged outwardly, and a top member having channels formed at its longitudinal edges for longitudinal sliding cooperation with the top flanges of the side members, one end of the top member extending over the upper end of one end member when in place, and the other end of the top member cut away to permit unobstructed vertical movement of the other end member.

6. In a collapsible stove, the combination of a base member having its longitudinal sides turned down at right angles to form longitudinally extending supporting legs, the marginal edge portion of each leg being formed outwardly and doubled back to form a channel, side members having their lower marginal edge portions flanged outwardly for longitudinal sliding coöperation with the base channels, said side members bearing against the outer faces of the legs, each side member having its ends flanged outwardly, end members having channels formed at their vertical edges for vertical sliding cooperation with the end flanges of the side members, the upper edges of the sides being flanged outwardly, a top member having channels formed at its longitudinal edges for longitudinal sliding coöperation with the top flanges of the side members, one end of the top member extending over the upper end of one end member when in place, and the other end of the top member cut away to permit unobstructed vertical movement of the other end member, and fastening means for locking the last mentioned member to the base.

7. In a collapsible stove, the combination of interengaging base, side, top, and back members, a grate resting on the base member and vertically spaced therefrom, a sheet metal partition member supported by the side members intermediate the grate and top member, and a vertically slidable front member.

8. In a collapsible stove, the combination of interengaging base, side, top, and back members, a grate having downwardly extending legs on its longitudinal edges to rest upon the base member and space the grate above the base, said grate being longitudinally removable through the front of the stove, a sheet metal partition member supported by the side members intermediate the grate and top member and a vertical slidable front member.

In testimony whereof we hereunto set our hands.

ROBERT R. ROBERTSON.
GEORGE F. HAUF.

In the presence of—
STANLEY W. COOK,
MARY F. ALLEN.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."