E. C. MOATS.

COLLAPSIBLE STOVE.

APPLICATION FILED JUNE 8, 1911.

1,096,739.

Patented May 12, 1914.

3 SHEETS—SHEET 1.

Fig. 1.

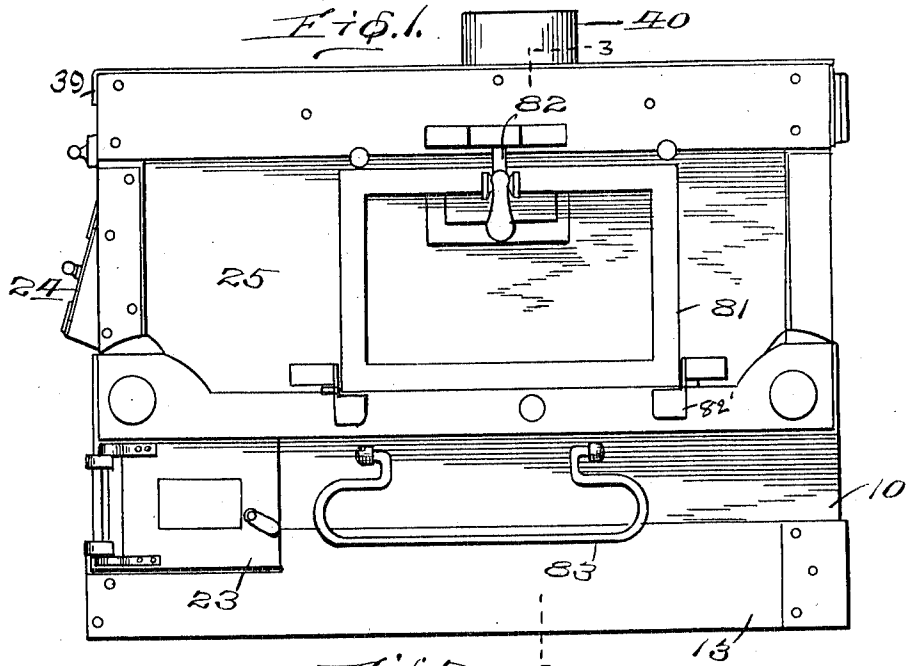
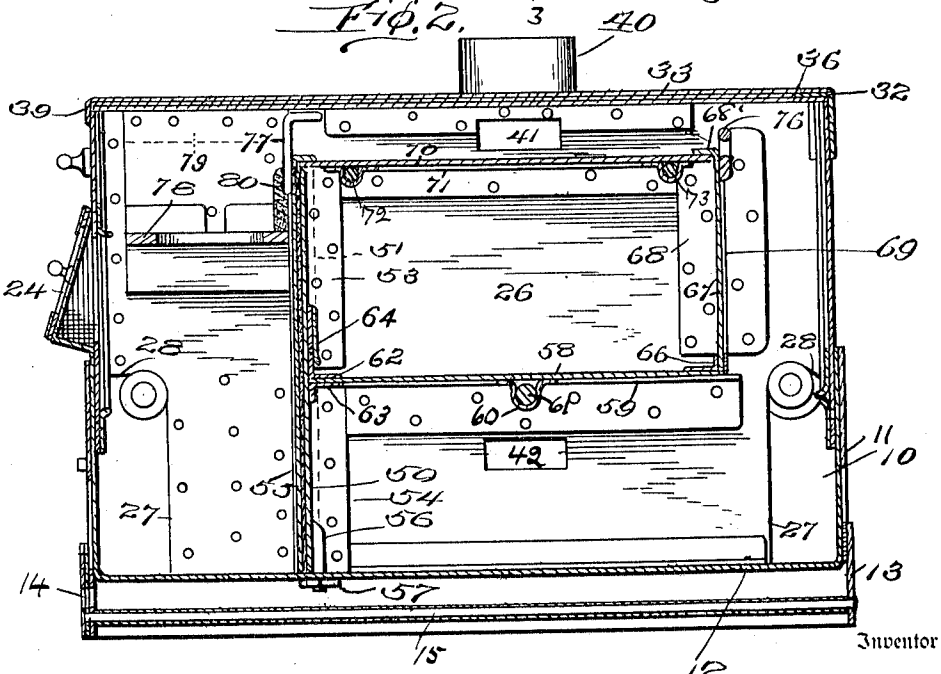


Fig. 2.



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3 SHEETS—SHEET 2.

Fig. 3.

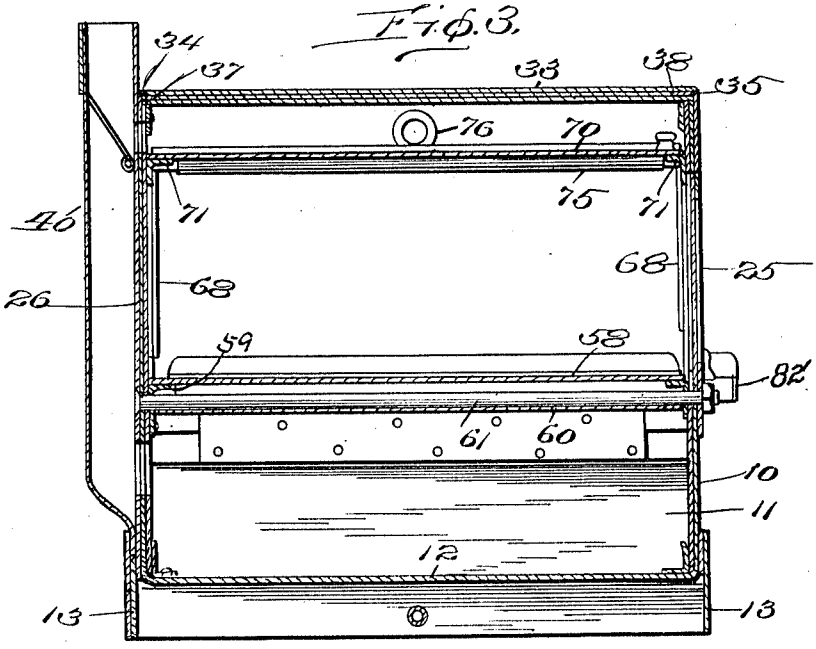


Fig. 4.

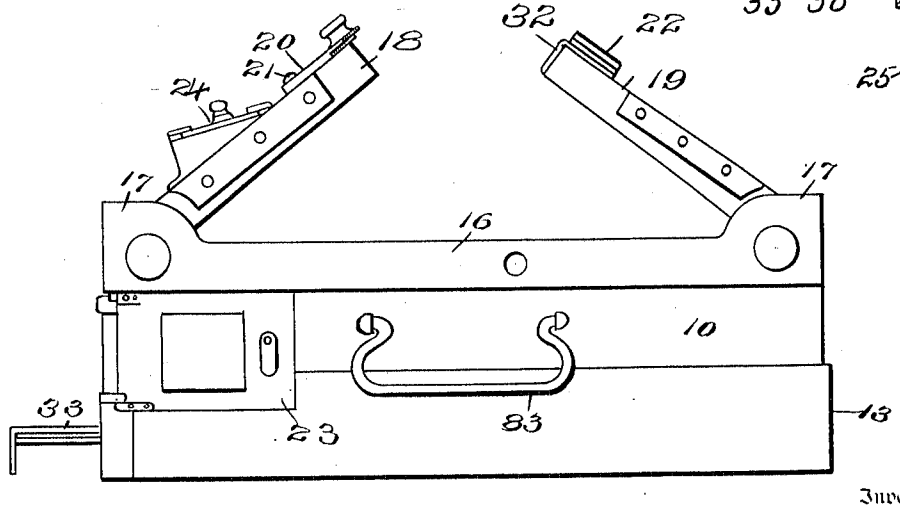
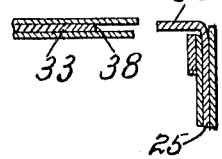


Fig. 10.



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3 SHEETS—SHEET 3.

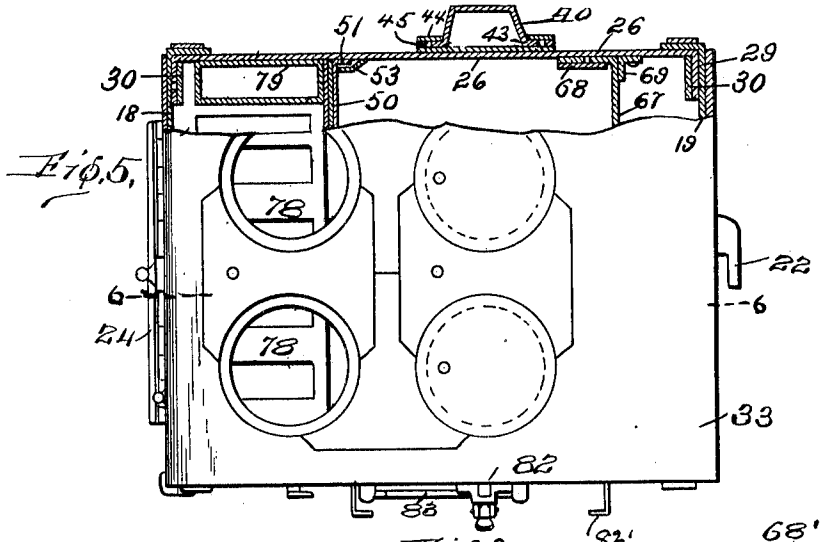


Fig. 5.

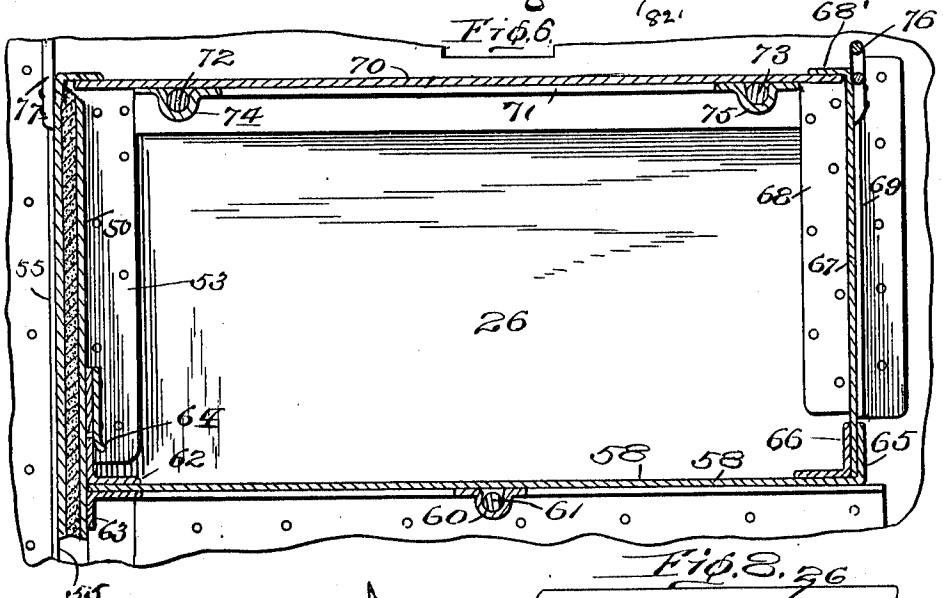


Fig. 6.

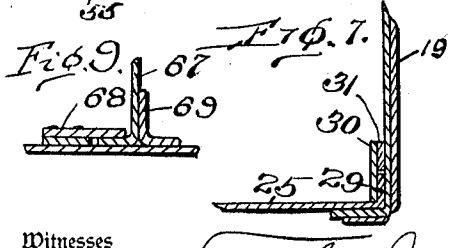


Fig. 9.

Fig. 7.

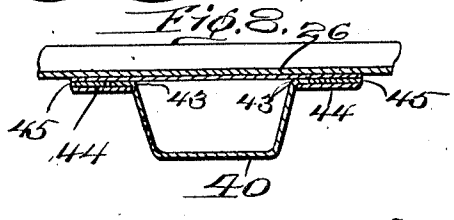


Fig. 8.

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UNITED STATES PATENT OFFICE.

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COLLAPSIBLE STOVE.

1,096,739. Specification of Letters Patent. Patented May 12, 1914.

Application filed June 8, 1911. Serial No. 631,980.

To all whom it may concern:

Be it known that I, EDWIN C. MOATS, a citizen of the United States, residing at Colorado City, in the county of El Paso and State of Colorado, have invented certain new and useful Improvements in Collapsible Stoves; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to collapsible stoves, and the object is to provide an improved form of knock-down structure including a base portion of convenient size for transportation from place to place in automobiles or other vehicles, and an upper collapsible portion arranged to be contained within the base when desired, and to be readily placed in position when the stove is to be put into service, for camping purposes and the like.

In the accompanying drawings, Figure 1 is a view of the device in elevation. Fig. 2 is a view in vertical section. Fig. 3 is also in vertical section, the view being taken at right angles to the view shown in Fig. 2 on line 3—3 of Fig. 1. Fig. 4 is an elevation of the base portion with the covers therefor partly closed, the said base being adapted to contain the parts of the upper structure. Fig. 5 is a top plan view parts being broken away. Fig. 6 is an enlarged vertical section of the oven on line 6—6 of Fig. 5. Fig. 7 is a detail of the connection for the outer corners. Fig. 8 is a section of the smoke pipe connection. Fig. 9 is a further detail. Fig. 10 is a detail view in section of the connection between the cover and the upper edges of the sides.

In carrying out my invention, I make use of a lower section which is box-like in form and constitutes the base of the completed stove, and an upper collapsible section comprising two members arranged to be folded down on the lower section and also including removable side portions and a removable top. The structure specified completes the outer walls of the stove. The interior fittings, from which the oven is built up, are removable as hereinafter described. The smoke pipe connection when detached is placed with the other detachable portions in the lower section, and the hinged end members, shown partly closed in Fig. 4, are folded down flat and secured.

The lower section includes side walls 10 permanently connected with end walls 11 and with a permanent bottom 12 spaced above the lower edges of the device, which lower edges are reinforced by a strip 13. A slot 14 extends through strip 13, on the fire box side and permits of the insertion of the cover when the stove is being knocked down, the cover passing between tie rod 15 and bottom 12.

A reinforcing strip 16 is secured to the upper edges of side walls 10 and is provided with ears 17 to which covers 18 and 19 are pivoted. A latch member comprising a bar 20 is pivoted at 21 on cover 18 and passes under a securing device 22 on the other cover. The lower section is provided with a door 23 at one end giving access to the interior, beneath the fire box, and cover 18 which constitutes the side of the fire box is provided with a draft-device 24.

The detachable side walls 25 and 26 extend downwardly into the lower section and adjacent to the side walls thereof, as shown at 27, portions being cut away, as at 28 for the accommodation of the pivotal portion of the hinge of the cover. The side walls 25 and 26 have flanges 29 at their edges which pass beneath strips 30 (Fig. 7) spaced from the inner surfaces of the covers and secured to such covers. The spacing strip is shown at 31. This construction provides a sliding connection for the flanges 29 of the sides. Cover 19 has an inwardly turned flange 32 at its free edge, fitting into a slot in the edge of the cover of the stove. Inwardly turned flanges 34 35 are also provided on sides 25 and 26, for a similar purpose.

The cover 33 may be formed of three thickness of material, the inner layer terminating at 36 (Fig. 2) at one end and at 37 and 38 (Fig. 3) on the respective sides, whereby slots are formed in the edges for the aforesaid flanges see also detail in Fig. 10. One end of the cover 33 is downwardly turned as shown at 39.

The smoke pipe connection consists of a channeled member 40, the interior of which has connection with openings 41 and 42 shown in Fig. 2. The flanges 43 of member 40 slide beneath strips 44 spaced from the wall but secured thereto through intervening strips 45.

The fire box plate 50 is preferably formed of two outer thicknesses of metal with a suitable intervening plate and is provided

with flanges 51 which pass behind strips 53 on each of the side walls. A rib 55 supports plate 50 on the fire box side. Threaded members 56 are connected with the lower edge of plate 50 and pass through apertures in the bottom, being secured by nuts 57. Bottom 58 of the oven is supported by cleats 59, and is provided with a tubular strip 60 for the accommodation of a tie rod 61 extending transversely of the stove and passing through the side walls of the latter. The edge of bottom 58 adjacent to the fire box is provided with an angle strip 62 on its upper side, which strip is engaged by a strip 64 secured to plate 50. A strip 63 is secured below the bottom plate and to the latter. The opposite edge of the oven bottom has a flange 65 and an angle strip 66 provides therewith a groove for the reception of the lower edge of the wall 67. The latter is also retained between the strips 68 and 69 on the stove wall. The oven wall 67 is provided with an upper flange 68′ and plate 50 has a similar flange, both flanges engaging the edges of the oven top 70 which rests on cleats 71, and on tie rods 72 and 73 passing through the side walls of the stove. Tubular members 74 and 75 connected with plate 70 partly surround the tie rods. A ring member 76 for raising the plate 67, is located in the position shown in Fig. 2, and a right-angled member 77 on plate 50, serves in part to support the cover 33. The grate of the fire box is indicated by 78, the water back by 79, and the usual lining by 80. The door 81 for the oven, is provided with a catch 82, and when open is retained by rests 82′.

In separating the parts of the device for transportation, the cover 33 is first removed by sliding the same longitudinally of the stove, and plate 67 is then withdrawn by means of handle 76 in order to partly release the cover 70 of the oven. Tie rods 72 and 73 are then removed and the cover 70 withdrawn from the stove. Following this operation tie rod 61 is withdrawn and bottom 58 is removed, the latter being separated from the fire box wall by partially lifting the wall by means of device 77. It is of course necessary to remove the nut or nuts 57 in order to slide the fire box plate or wall upwardly. The plate last mentioned being now free it may be wholly removed from the stove, leaving the outer walls entirely free. The side walls 25 and 26 are now removed by drawing them upwardly out of contact with the end walls, the latter being hinged and constituting the ends of the stove and the covers of the inclosure when in the position shown in Fig. 4. The covers are allowed to drop to their final position where they are suitably secured.

It will be understood that in assembling the stove the operation is reversed.

What I claim as new and desire to secure by Letters Patent is:

1. In a stove, a base portion, side and end walls connected therewith, the side walls having slidable connection with the end walls, a vertically arranged plate having slidable connection with the side walls and forming one wall of a fire box, a grate for the fire box, a second plate having slidable connection with the side walls, upper and lower detachable plates connecting the said second plate with the plate first mentioned, forming an oven, said lower plate being provided with means for engaging the lower portion of the second plate, and the second plate being provided with means for engaging the upper plate.

2. In a stove, a base portion of box-like formation, covers connected thereto, said covers being provided with pivotal portions for effecting said connection and arranged to be swung into position for forming upward extensions of the end walls of the base, side walls connecting the extended end walls, the lower portion of the side walls being cut away and narrower than the upper portion, the narrow portion of each side wall extending from the pivotal portion of one cover to the pivotal portion of the opposite cover, and the upper portion of each wall extending from one cover to another when said covers are fully open, a top extending across the upper edges of the several walls, and detachable means within the structure thus formed for defining a fire box and an oven.

3. In a stove, a base portion of box-like formation, and including a bottom plate, means for forming upward extensions for the side and end walls of the base, a cover having slidable connection with the upper edges of the several walls, means whereby said cover is supported within the base below the bottom plate when removed from its normal position, and detachable means for defining an oven and fire box within the structure, such means last mentioned being receivable within the base portion above said bottom plate when removed from their normal position.

4. In a stove, a base portion, a plurality of side walls, a cover connecting the side walls, a vertically arranged plate having slidable connection with the side walls, a second plate similarly connected with the side walls, means on the plate first mentioned for partially supporting the cover and for raising said plate from its normal position, a horizontal plate having upwardly extending flanges in contact with the aforesaid plates, an upper horizontal plate connecting the upper edges of the slidable plates, and transverse tie members for supporting the horizontal plates.

5. In a stove, a plurality of side walls, a partition wall plate arranged in a substan-

tially vertical position, a bottom plate for an oven, an angle strip carried thereby, a strip spaced from the side of the vertical plate and secured thereto and adapted for engagement by the angle strip, a flanged member extending from the upper edge of the vertical plate and projecting in the same direction as one of the flanges of the angle strip, said bottom plate being disposed between the side walls, a second vertical wall having connection with the bottom plate of the oven, and having a flanged portion at its upper edge extending toward the vertical plate first mentioned, and an upper plate arranged substantially horizontally and engaged by the flanges on the upper edges of the vertical plates.

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

EDWIN C. MOATS.

Witnesses:
Mrs. V. V. Hames,
J. B. Moats.

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