No. 612,004.

Patented Oct. 4, 1898.

W. J. KEEP.

STOVE.

(Application filed Dec. 16, 1895.)

(No Model.)

2 Sheets—Sheet 1.

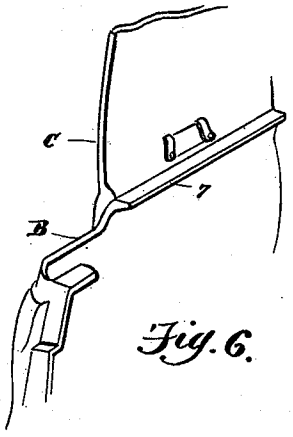


Fig. 6.

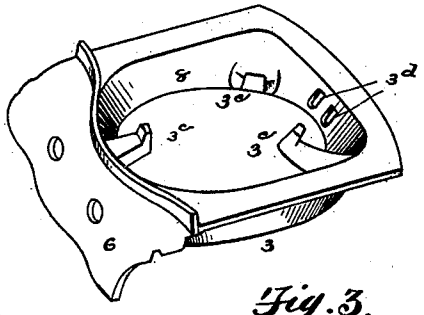


Fig. 3.

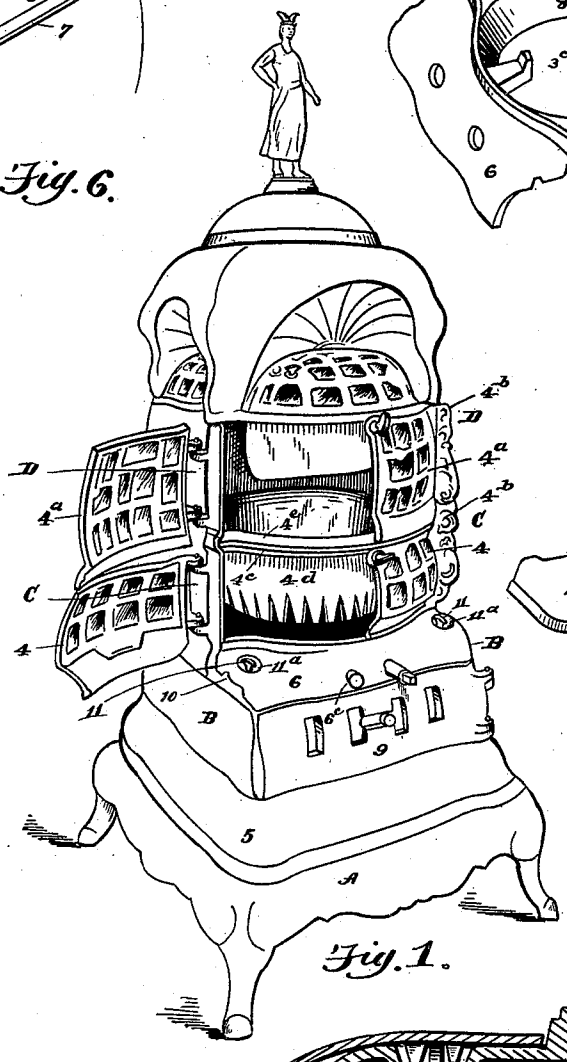


Fig. 1.

Fig. 7.

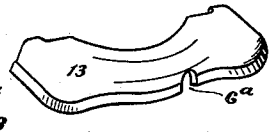


Fig. 8.



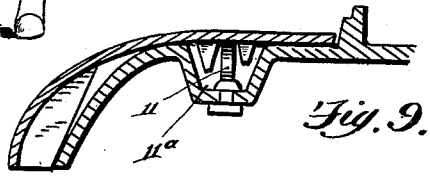


Fig. 9.

WITNESSES

L. A. Bradford

Virginia M. Clough

INVENTOR

William J. Keep

By Parker and Burton

Attorneys.

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

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2 Sheets—Sheet 2.

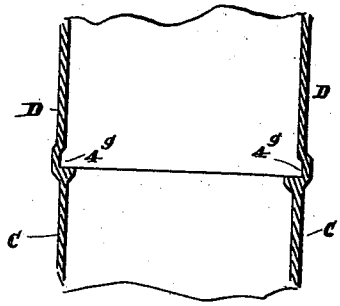


Fig. 5.

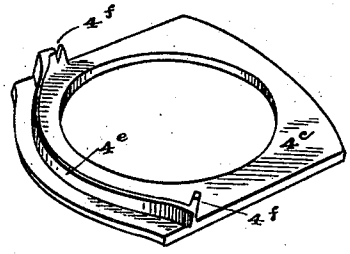


Fig. 4.

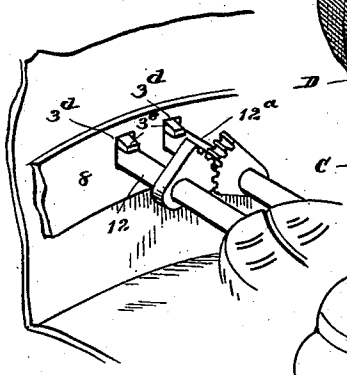


Fig. 10.

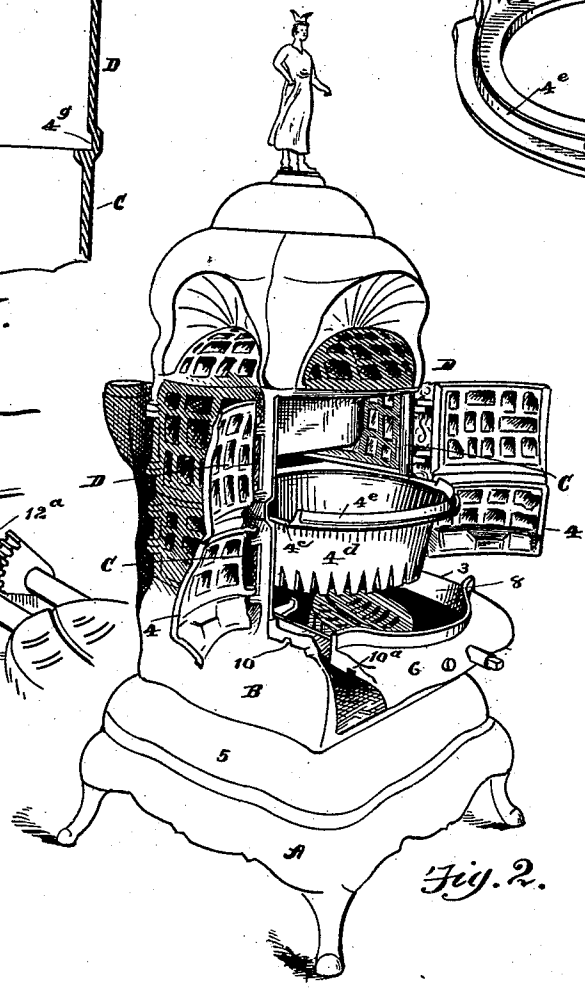


Fig. 2.

WITNESSES

W. H. Bradford

Virginia M. Clough.

INVENTOR.

William J. Keep.

By Parker and Burton

Attorneys.

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

WILLIAM J. KEEP, OF DETROIT, MICHIGAN, ASSIGNOR TO THE MICHIGAN STOVE COMPANY, OF SAME PLACE.

STOVE.

SPECIFICATION forming part of Letters Patent No. 612,004, dated October 4, 1898.

Application filed December 16, 1895. Serial No. 572,290. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM J. KEEP, a citizen of the United States, residing at Detroit, county of Wayne, State of Michigan, have invented a certain new and useful Improvement in Stoves; and I 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 pertains to make and use the same, reference being had to the accompanying drawings, which form a part of this specification.

This invention relates to stoves, and has for its object improvements in base-burning stoves whereby they are made with a less number of pieces, and consequently a less number of joints, than heretofore and whereby a stove can be disassembled and many of its heavy parts removed, so that it can be much more easily transported and also so that repairs can be supplied and put in place in the stove-frame much more easily than heretofore.

Base-burning stoves are made with flues at the back and the bottom, with side walls, and they are provided with an ash-pit within which is received an ash-pan, which must be of considerable capacity. Above the ash-pit is a fire-pot section, and above the fire-pot section is a combustion-chamber partially occupied by a magazine, which lies still above the combustion-chamber. In front of the ash-pit is a door, which should be as wide or nearly as wide as the entire ash-pit, and heretofore it has been customary to mount such doors on an independent frame which contained all of the hinges, catches, and seating-ledges. In front of the lower mica doors there has been heretofore a part that lay substantially level and formed the cover to the front of the ash-pit, and upon the level part of the stove was commonly bolted an ornamental nickel-plated hearth. The piece that supported the ornamental hearth has been usually bolted to the door-frame for the lower mica doors.

My invention hereinafter described presents several features of novelty and improvement over the features of base-burning stoves hereinbefore briefly referred to; and it consists in making, first, a rigid base that will always retain its true shape, and upon this rigid base is erected the back of the stove, including the back flues, and secured to the back and the base are the side pieces and the dome or top covering the side pieces. These parts constitute a stove-skeleton or a stove without a front and with all the parts that close in the ash-pit removed and with the grate and fire-pot and the rings which support the grate and the fire-pot removed from the interior of the stove.

The inner surfaces of the sides and the back are provided with ledges or tracks which are adapted to support the rings, one of which is called the "grate-ring" and the other of which is called the "fire-pot ring." These rings are diaphragms provided with suitable central openings and appurtenances to allow the grate or the fire-pot, as the case may be, to be placed in position within the ring and held there, while the ring itself is adapted to slide in or out along the side ledges of the stove and is fashioned in its own contour to conform to the cross-section of the stove-frame at the lines where the ledges are located.

That side of each of the rings which comes to the front of the stove is provided with suitable ledges or flanges, against which the mica doors close, and thus each ring becomes when in place a part of the door-frame against which the door closes, the remainder of the door-frame consisting of the front lower edge of the dome and the front vertical edges of the sides of the stove, which are provided with suitable hinges.

The sides of the stove just at the top of the ash-pit and the sides of the grate-ring which are adapted to engage therewith are provided with suitable flanges, studs, and buttons, so that the hearths projecting from the grate-ring are seated closely against the parts of the stove sides and are held in place by suitable buttons.

The fire-pot ring is provided at the point where it engages the front edges of the stove sides with suitable holes and lugs, so that bolts or buttons can be inserted through the stove sides and the lugs and these parts can be drawn together and held in place.

On the hinge edge of each mica door is a wing which covers the hinge, concealing it from sight, and which swings with the door.

When closed, the wing on the doors of the combustion-chamber and the wing on the doors of the fire-pot chamber are in line and form a continuous wing from the top to the bottom of those two chambers. This construction enables me to place the hinges for the doors on the corner of the stove at the front edge of the stove sides, which could not be done with the previous construction, where there was a framework for the doors between the two sides and in front of the stove.

The grate-ring contains bearings for the trunnions of the grate, and at the rear, above the bearings for the trunnions, are openings through which project (when the parts are assembled) lugs that extend forward from the inside of the back of the stove, so that when the parts are assembled the trunnion cannot be lifted out of its bearing and yet when the entire ring bearing the grate is pulled forward, as may readily be done, the grate can be quickly removed, if desired. The grate-ring is held in place by buttons which are preferably made with a flat thumb-piece, so that they may be readily turned with thumb and finger, and to prevent the escape of the ring from position by the button being accidentally turned in place there is at each side a depending lug on the false hearth that drops behind the button and prevents its being accidentally turned.

A stove may be made with or without bottom or back flues; also, without a magazine and without a fire-pot ring. In other words, this invention relates to details of construction.

Figure 1 shows a stove with all the parts except the false hearth in place. Fig. 2 shows such a stove with the movable parts partially displaced. Fig. 3 shows a removable grate-supporting ring. Fig. 4 shows a removable fire-pot-supporting ring. Fig. 5 indicates the means by which a fire-pot-supporting ring is sustained. Fig. 6 indicates the means by which the grate-supporting ring is sustained. Fig. 7 shows the false ornamental hearth. Fig. 8 shows an end of the false hearth reversed, so that the under side of it is seen. Fig. 9 is a cross-section of the hearth and false hearth, taken through the button 11, and indicates the manner in which the button is prevented from turning. Fig. 10 shows the bearings in which the rear ends of the grate-journals rest and the lugs which prevent the journals from rising.

A indicates the leg-base of the stove.

5 indicates the base or bottom part of the stove-body, containing the bottom cross-flues of a base-heating stove and above these flues the partition which forms the floor of the ash-pit. The ash-pit is inclosed on three sides by the side walls B B and the back wall, which is not seen in the drawings, and on the fourth side by a door 9 and by a hearth 6. This hearth extends from the front of a grate-ring 3 and terminates forward in a skirting which constitutes the upper-edge side of the door-frame. The fire-pot cavity is inclosed on three sides by the side walls C C and the back and on the front side by the double mica doors 4 4. The combustion-chamber, above the fire-pot and below the dome, is inclosed by the side walls D D and the back and in front is inclosed by double mica doors 4^a 4^a. The sections B C D of the side walls may be made separately or integral, as will be most convenient for manufacture. At the meeting line of the side B and the side C (if made separately, or at a corresponding place if each side is made in one piece) is a ledge 7, which is employed as a track upon which the grate-ring rests when the parts of the stove are completely assembled or upon which it can slide whenever the stove is being assembled or disassembled for any purpose. At the front of the sides B B there are seats properly fashioned and shaped to engage with the edges of the hearth and skirting and make close joints therewith. The particular shape and configuration of these pieces is immaterial, and they might be varied indefinitely to suit various patterns of stoves. The horizontal cross-section at the lines where the grate-ring and the fire-pot-supporting ring (hereinafter spoken of) engage with the stove-frame is substantially rectangular, and the side lines of the two rings and of the stove-sections at the lines where the rings engage the sides should be substantially straight. The front and back or either of them may be curved, according to the desire of the manufacturer.

The grate-ring 3 is a flat plate having a circular opening and suitable lugs for the support of the grate and with its sides straight and parallel. The back line conforms to the back wall, (or partition in front of the back flues,) and the front is provided with a hearth 6 and skirting 8, which extends forward and downward and constitutes the inclosing wall over the top at the front part and partially over the front of the ash-pit, and, in connection with the flanges on the front edges of the sides B B, constitutes the seat for the door 9. Within the opening and on the lugs 3^e 3^e 3^e is supported the grate, made in either one piece or two pieces, as may be preferred. The skirting 8 is provided with holes 3^d 3^d, through which pass the journal or journals of the grate. At the rear the ends of the journals rest in bearings 12 12^a, and lugs 3^e 3^e, projecting from the back of the stove, engage over the ends of the journals and prevent them from rising from their proper place. In that part of the flange on the side pieces B B with which the skirting engages is a stud 10, that engages with a notch 10^a in the edge of the skirting, and a button-latch 11 is adapted to hold the parts securely together. I prefer to sink these buttons in cavities 11^a, so that there shall be no protruding knob. Around the front of the plate is an upturned flange against which the doors 4 4 close, and over the entire hearth is a false hearth 13, which conforms in its general shape to the

hearth beneath it. At that part which lies immediately over the button 11 there are a number of lugs between which the head of the button is received, and these lugs prevent the button from turning so long as the false hearth is in place. A notch 6^a is provided in order to permit the end of the grate-bar to project therethrough or to be reached by a wrench. The end 6^c of the second journal is preferably covered and concealed by the false hearth.

Each of the mica doors 4 4 4^a 4^a is provided at that edge to which the hinge-knuckles are attached with a wing 4^b 4^b, that projects outward and backward, forming an ornamental finish for the edge of the stove, and conceals the hinges from sight. Where there are two sets of doors, as in the drawings, this ornamental skirting is apparently continuous from the top of the upper door to the bottom of the lower door.

Above the grate-ring and at a suitable height for the support of the fire-pot there is on each side of the stove a ledge or track, (indicated at Fig. 5 at 4^g 4^g,) upon which ledge the fire-pot-supporting ring (shown in Fig. 4) is adapted to rest. This ring consists substantially of a plate 4^e, having a central opening within which the fire-pot 4^d is supported and provided at its front side with an upturned extending ledge 4^e, which forms the bottom seat for the swinging doors 4^a 4^a. The extremities of the ledge 4^e turn back parallel with the side of the ring and are adapted to engage the side walls D D of the stove and are secured in place by short stove-bolts which pass through the side walls and through the notches 4^f 4^f. This supporting-ring, with the fire-pot supported by it, is easily removable from the stove or easily placed back in place without disassembling any of the parts of the stove, and so, also, the grate-ring and the grate-support are easily removed or replaced without disassembling any parts of the stove.

What I claim is—

1. In combination with a stove-body provided with ledges adapted to sustain a ring and permit the ring to slide thereon, a ring adapted to support an interior part of said stove and to slide on said ledges, means adapted to secure the ring in place in the assembled stove, said ring being provided with a seating-ledge adapted to engage the door whereby it becomes in the assembled stove a part of the stove-frame, substantially as described.

2. In a skeleton stove structure, the combination of back, base and sides, and a dome, the said dome and sides being each provided with seating-pieces for flanges upon which the doors may seat without an interposed door-frame, substantially as described.

3. In combination with a skeleton stove-frame provided with supports, and a grate-ring adapted to slide to place on said supports, buttons adapted to hold the ring in place, a false hearth adapted to rest over said buttons and provided with lugs adapted to engage the button-heads and prevent the buttons from turning, substantially as described.

4. A stove-frame having top, back, bottom and sides, but with its front entirely open, hinge-knuckles for doors at the sides, removable rings adapted to support the inner parts of the stove, and provided with seat-flanges against which the doors swinging from said knuckles are adapted to close, substantially as described.

In testimony whereof I sign this specification in the presence of two witnesses.

WILLIAM J. KEEP.

Witnesses:
FRANCES CLOUGH,
CHARLES F. BURTON.