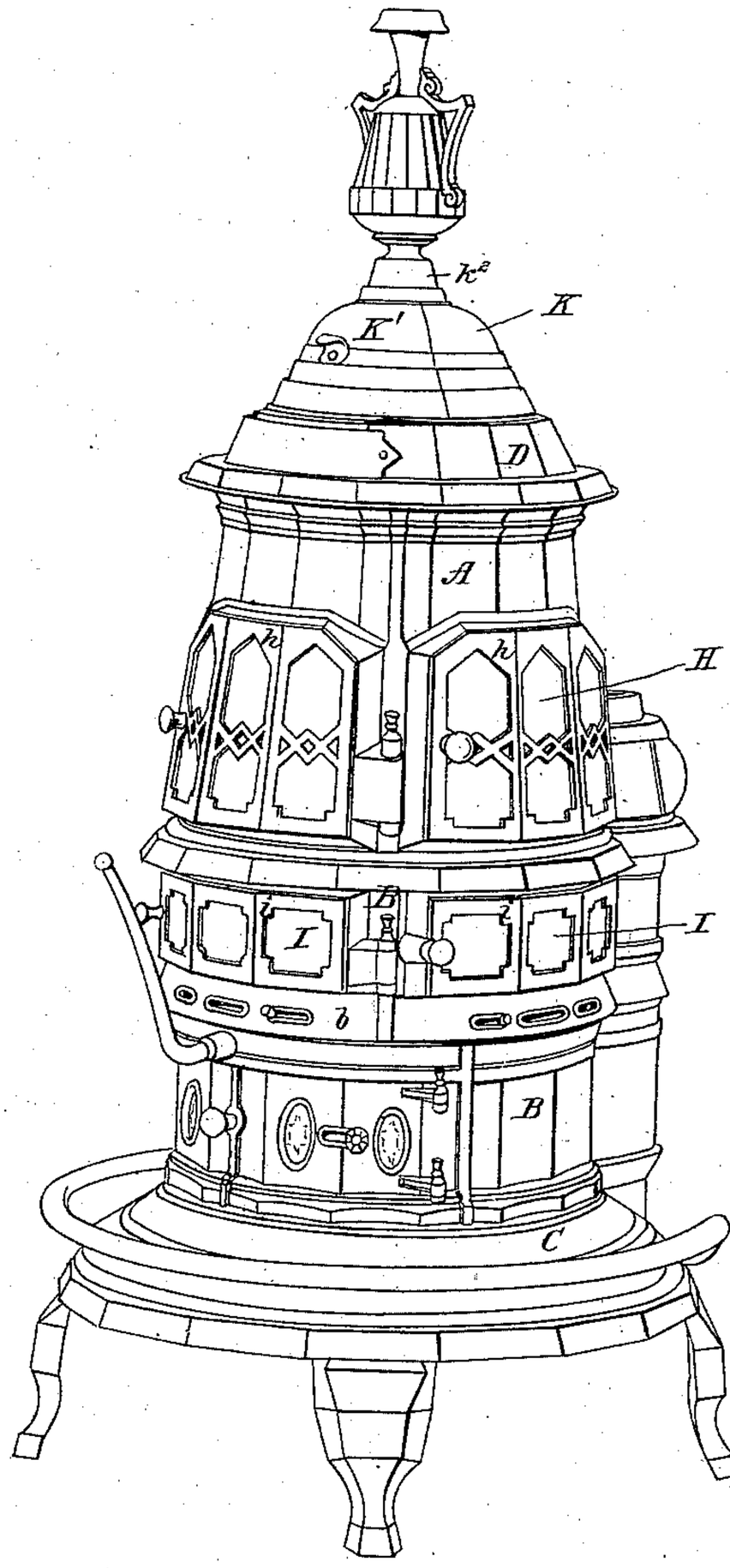
3 Sheets—Sheet 1.

A. C. BARSTOW.

Stove.

No. 228,166. Patented June 1, 1880.

Fig. 1.



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C. J. Hedrick

Inventor:
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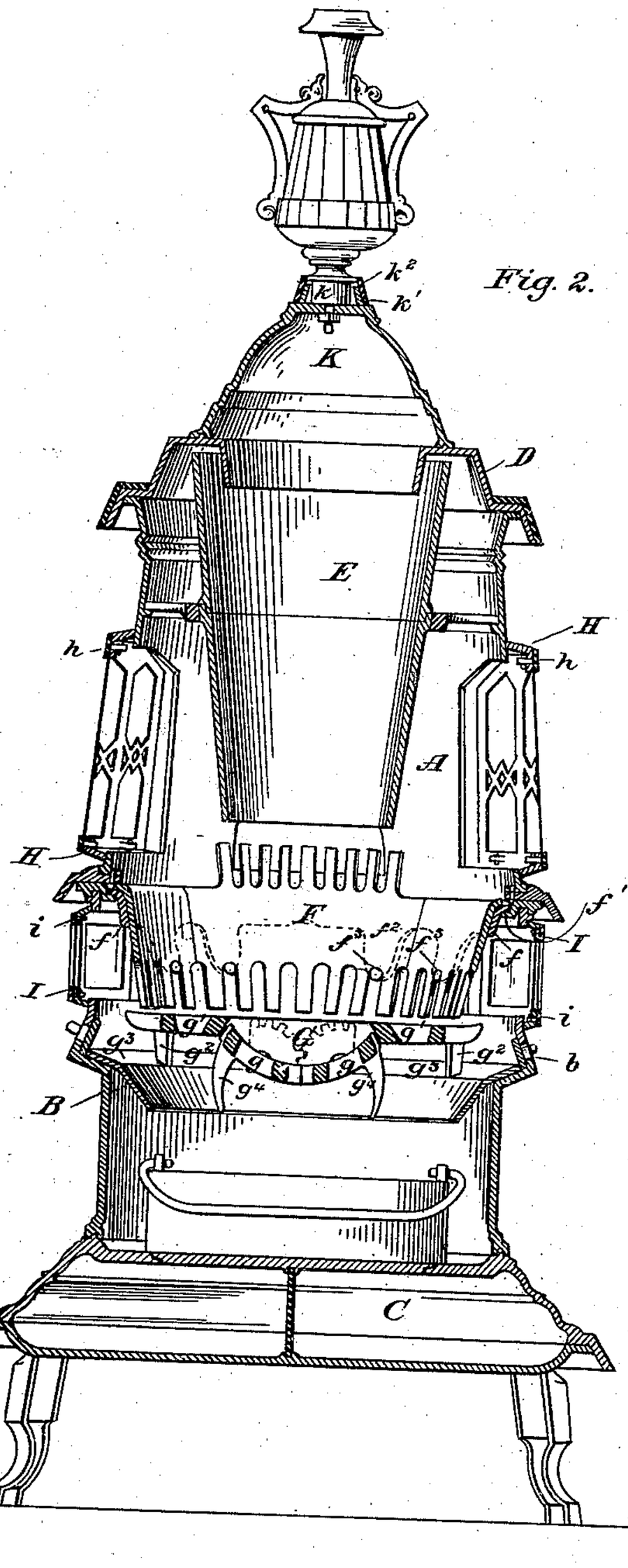

Fig. 2.

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3 Sheets—Sheet 3.

A. C. BARSTOW.

Stove.

No. 228,166. Patented June 1, 1880.

Fig. 3.

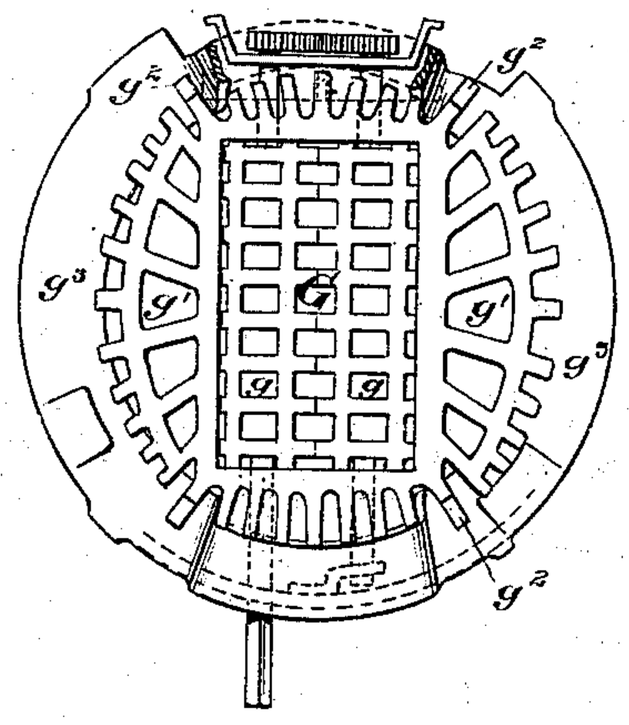
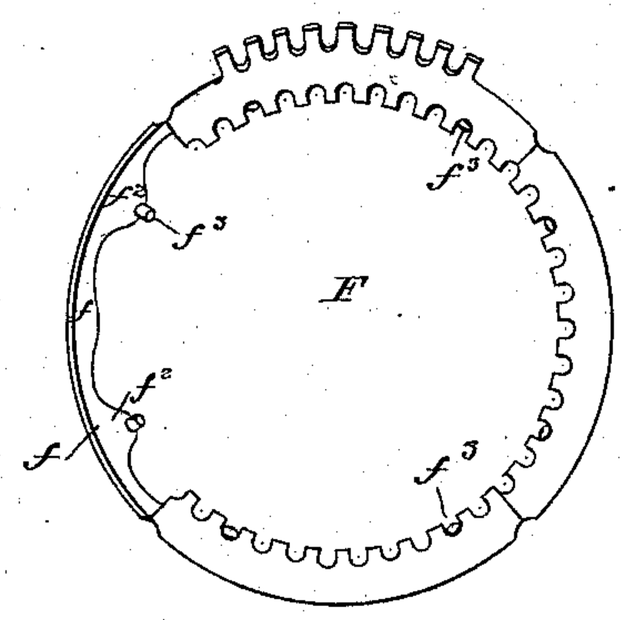


Fig. 4.



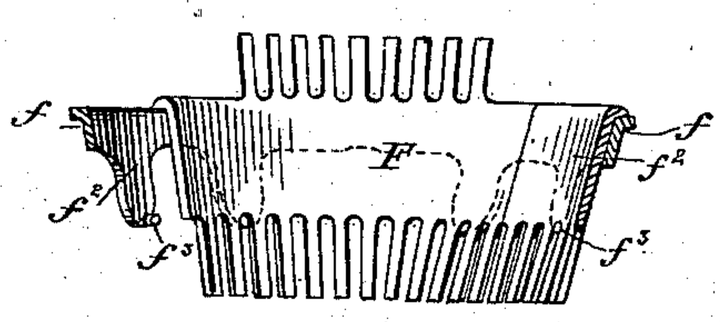


Fig. 5.

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UNITED STATES PATENT OFFICE.

AMOS C. BARSTOW, OF PROVIDENCE, RHODE ISLAND.

STOVE.

SPECIFICATION forming part of Letters Patent No. 228,166, dated June 1, 1880.

Application filed October 25, 1879.

To all whom it may concern:

Be it known that I, AMOS C. BARSTOW, of the city of Providence, State of Rhode Island, have invented a new and useful Improvement in Base-Burning Stoves, which improvement is fully set forth in the following specification.

This invention relates more particularly to the class of base-burning or magazine stoves. It comprises improvements in the fire-pot, in the grate, and in the construction of connected or supporting parts; and it further consists in the combination of various devices, as hereinafter more fully set forth.

The fire-pot is formed in sections, which are supported in a ring or frame and rest upon stationary lugs or projections, being sustained in position by their own weight. These lugs project inwardly from pendants attached to said ring or frame, and fit between the bars in the lower part of the fire-pot sections. Sectional fire-pots have been heretofore made.

My improvement consists in the manner or means of supporting the sections, whereby they can be readily inserted and removed or replaced, as required, and when placed in position are securely held without requiring special fastening devices.

The grate is formed in two parts: a flat or slightly-curved stationary grate having in the middle a rectangular opening, and a duplex grate, with rotary or vibratory bars, supported so as to work within the opening in the stationary grate. The duplex grate clears the center of the fire of ashes and cinders, and also, by the motion of its bars, does much to clear them from the circumference.

The duplex grate referred to has heretofore been used in cook-stoves or ranges, filling horizontally the whole oblong rectangular fire-space and revolving or vibrating between the brick linings. Great difficulty was encountered in making it circular or of similar curved form and in adjusting it to upright stoves, the bodies of which are of general cylindrical or elliptical cross-section. These difficulties are overcome by the disposition indicated. The bars are supported in bearings attached to the frame or body of the stove. The stationary grate is supported by lugs on its circumference, which rest upon a ring sustained by a flange or projection on the stove-body.

The stove-body is composed of a lower section of general cylindrical form, which supports the fire-pot and grate, and an upper tapering section, of pyramidal or conical form, which supports the magazine. Two rows of mica doors are employed, one above and the other below the upper edge of the fire-pot, which is at the top of the lower section. This lower section is preferably cast in one piece. It may be formed in two or more parts, if desired, but less advantageously.

In order to more clearly explain my invention, reference is made to the accompanying drawings, which represent a stove constructed in accordance therewith, and which form a part of this specification.

Figure 1 is a perspective view; Fig. 2, a vertical section; Fig. 3, a plan of the grate in detail, and Figs. 4 and 5 detail views of the fire-pot.

The body of the stove is formed of two main parts, A B, which are supported by the base C, resting on legs, and is surmounted by a cap, D. The magazine E is supported within the part A in any ordinary or suitable way.

F is the fire-pot, and G the grate, both supported within the part B, in the lower part of which is the ash-pit. H I are rows of mica-glazed doors. K is a dome provided with a movable portion, K′, which is turned to one side when necessary, in order to feed the fuel into the magazine. The flues are not indicated, as they are constructed in any ordinary or suitable way, and provided with the necessary dampers and openings.

The part A is made pyramidal or conical, being largest at the bottom and diminishing in diameter upward. It extends from the upper edge of the fire-pot to approximately the top of the stove. In the lower part thereof are the mica-glazed doors H, which extend over the larger part of its height, and permit direct radiation of the heat from the fire, and, being lighted, present the cheerful appearance which renders this class of stoves so desirable. The height of the part A is approximately equal to that of the part B, and while the total height of the stove is reduced in this way, the symmetrical appearance of the stove is maintained.

The part B is cast in one piece of metal,

the metal ring *b*, in which poke-holes with dampers are placed, being formed therewith. Above this ring are the mica-glazed doors I, and in front, below, the ash-pit doors, provided with dampers.

The fire-pot F is formed in sections, as represented, four in number, which sections are sustained in the ring or frame *f*, which itself is suspended from a projection or ledge, *f'*, fixed on the interior of the stove-body. From the frame *f* arms f^2 depend, which at the bottom are provided with inwardly-projecting lugs f^3. These lugs, when the sections of the fire-pot are placed in position, enter between the bars at the lower part thereof. Preferably there are two lugs for each of the sections. The fire-pot is held in position by its own weight.

The grate G is formed of a duplex grate, *g*, and a stationary part, *g'*. The latter is flat or slightly inclined, and is supported by lugs or projections g^2, resting upon the ring g^3, which itself rests upon the lower part of the ring *b*. In an oblong rectangular opening in this stationary grate is placed the duplex grate. The latter is composed of two rotary bars supported by trunnions or journals which have their bearings in stationary pieces attached to the part B of the stove-body. At the back end the bars are connected by a spur-gearing, so that they are turned simultaneously and in opposite directions. The journal or trunnion of one of the bars projects through the front of the stove, and to it a handle is applied for working the grate. The upper surface of both bars is concave, and from the outer edges of each depend a series of curved teeth, g^4, spaced like the fire-bars. These teeth, when the bars are rotated to bring their outer edges together, support the burning fuel. The operation of these bars not only clears the fire, removing ashes and cinders above it, but also works those upon the stationary grate toward the opening, and effectually clears it also.

The mica of both sets of doors, H I, is held is held in place by frames *h i*, which cover the entire face of the doors. These frames are nickel-plated or otherwise ornamented, and secured in position by lugs and pins on the inside. By means of these frames the appearance is given of the door itself being nickel-plated or ornamented, which decoration could be applied thereto only with great difficulty.

The dome K, which surmounts the stove, is ellipsoidal in shape. The stationary part is formed with a flat top, to which the base *k* of the ornamental vase is secured by means of a rod passing therethrough confined by a nut. The movable part K' is provided at the top with a ring, *k'*, which encircles the lower part of the ornamental vase. A collar, k^2, encircles this ring, resting by its own weight thereon, and free to move to allow the part K' to be lifted and moved one side to expose the opening to the magazine. On account of the elliptical form of the dome, the distance which the part K' has to be moved in order to turn it is lessened.

The manner of putting up the stove for use will be understood from the drawings and the foregoing description. The fire-pot, being in sections, can be removed and replaced through the doors H. The fire is started, the magazine is filled, and the fuel automatically fed into the fire-pot, the drafts regulated by dampers, and the fire cleaned by operating the duplex grate, as required or as deemed suitable by the attendant, in substantially the ordinary way.

Although it is preferred to construct the stove, as described, with the several improvements combined, yet it is evident that one or more parts of the invention could be used without the others.

Having now described my said invention and the manner in which the same may be constructed and used, what I claim, and desire to secure by Letters Patent, is—

1. A fire-pot formed in sections, in combination with a frame or ring, and lugs or projections attached to said frame or ring, said lugs or projections being arranged to form bearings or supports for the fire-pot sections at their lower parts, substantially as described.

2. A sectional fire-pot, in combination with a stationary frame or ring in which the same is sustained, and stationary lugs projecting between bars formed in the lower part of the fire-pot, substantially as described.

3. The ring or frame for sustaining the fire-pot, the same being provided with inwardly-projecting lugs attached to projections extending from the lower part of said ring or frame, substantially as described.

4. The grate formed of two parts—a flat or slightly-curved stationary grate provided in the middle with a rectangular opening and a duplex grate composed of rotary or vibratory bars supported in bearings attached to the body of the stove to work in said opening in the stationary grate, substantially as described.

5. The combination of a stove-body having an upper tapering section surrounding the magazine and supported upon a section of general cylindrical form, with a fire-pot formed in sections sustained by means of lugs projecting between the bars at the bottom of said sections in an upright position in a ring or frame supported at, or approximately at, the junction of the said tapering section with the cylindrical section.

6. The combination, with the lower part of the stove-body having an internal flange or projection, of a ring resting thereon, a stationary grate supported by lugs resting on said ring, and a duplex grate composed of rotary or vibratory bars supported in bearings attached to the stove-body and working in a rectangular opening in said stationary grate, substantially as described.

7. A stove the body of which is composed

of two main parts, the upper inclosing and supporting the magazine and being of a pyramidal or conical form, and the lower forming the fire-pot and ash-pit section, supporting, by means of a frame with inwardly-projecting lugs attached, a sectional fire-pot, and supporting also, below said fire-pot, a grate in two parts—a circular stationary grate and a duplex grate working in a rectangular oblong opening therein—substantially as described.

In testimony whereof I have signed this specification in the presence of two subscribing witnesses.

A. C. BARSTOW.

Witnesses:
PHILIP MUNRO,
C. J. HEDRICK.