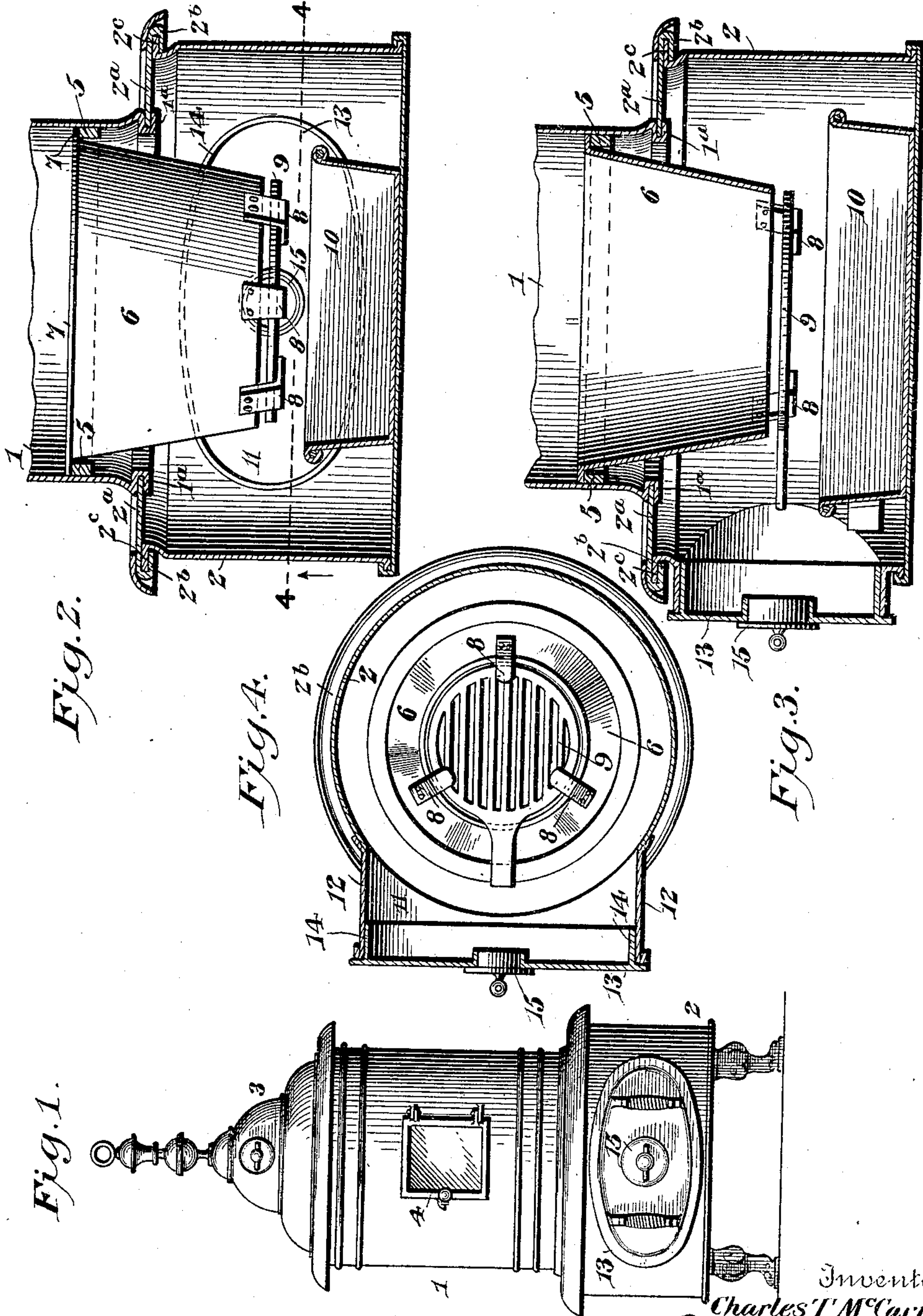


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PATENTED JAN. 15, 1907.

C. T. McCARROLL.
COAL STOVE.

APPLICATION FILED APR. 18, 1904.



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CHARLES T. McCARROLL, OF OTTUMWA, IOWA.

COAL-STOVE.

No. 841,169.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, CHARLES T. McCARROLL, a citizen of the United States, residing at Ottumwa, in the county of Wapello and State of Iowa, have invented a new and useful Coal-Stove, of which the following is a specification.

The invention relates to improvements in coal-stoves.

The object of the present invention is to improve the construction of coal-stoves and to provide a simple and comparatively inexpensive one, which will be light, strong, and durable, and which will have an increased heating capacity.

A further object of the invention is to provide a stove of this character which will be air-tight and which will operate as a base-heater without employing the usual bottom flues for effecting this result.

The invention also has for its object to provide a stove adapted to accommodate an ash-pan of greater diameter than the grate, so that all of the ashes shaken from the grate will fall into the ash-pan.

With these and other objects in view the invention consists in the construction and novel combination and arrangement of parts hereinafter fully described, illustrated in the accompanying drawings, and pointed out in the claims hereto appended, it being understood that various changes in the form, proportion, size, and minor details of construction within the scope of the claims may be resorted to without departing from the spirit or sacrificing any of the advantages of the invention.

In the drawings, Figure 1 is an elevation of a coal-stove constructed in accordance with this invention. Fig. 2 is a vertical sectional view of the lower portion of the stove. Fig. 3 is a vertical sectional view taken at right angles to Fig. 2. Fig. 4 is a horizontal sectional view taken substantially on the line 4 4 of Fig. 2.

Like numerals of reference designate corresponding parts in all the figures of the drawings.

1 designates the body of the stove, constructed of sheet-metal and connected at its lower end to the base 2, which is also constructed of sheet metal and which is extended horizontally beyond the walls of the body portion 1, as shown. The body is preferably of cylindrical form and is provided with a

suitable top 3, and it has a door 4 for the introduction of fuel; but the stove may be constructed to permit the fuel to be introduced into it at the top, as will be readily understood.

The base, which is preferably circular, is constructed of sheet-steel or other suitable material, and it is composed of a bottom, side walls, and a connecting top piece 2^a, which is provided with an opening to receive the lower end of the body 1. The top and bottom of the base are of the same area, and the walls are vertical. The lower edge of the body is bent to form a horizontally-disposed substantially U-shaped portion 1^a, opening outwardly and receiving the inner edge of the top connecting portion 2^a. The outer edge of the top connecting portion is bent to form a depending inwardly-extending L-shaped flange, which forms, with the top connecting-piece, an inner groove to receive the upper edge of the sides of the base. The upper edges of the sides of the base are bent outward to form a horizontal flange which fits in the groove at the outer edge of the top connecting-piece 2^a. The seams or joints thus formed for connecting the top connecting-piece with the bottom of the body and the upper edges of the side walls of the drum are air-tight, and the seam which connects the lower edges of the side walls with the bottom of the base is also air-tight. The hollow base thus formed provides an inclosed heating-chamber and presents a large amount of the radiating-surface.

The body is provided on its interior adjacent to its lower end with an annular support 5 for the reception of a fire-pot 6, which is provided at its top with an outwardly-extending portion or flange 7. The outwardly-extending portion or flange 7 is seated on the annular support 5, as clearly shown in Figs. 2 and 3 of the drawings. The fire-pot 6, which is circular in cross-section, is tapered toward its lower end, and it extends downward into the base or ash-pit of the stove a considerable distance, as shown in Figs. 2 and 3, thereby increasing the radiating-surface of the stove and enabling the latter to operate as a base-heater without employing the usual bottom flues for securing this result. The fire-pot is provided at its bottom with depending approximately L-shaped brackets or supports 8, which receive a rotary grate 9, and the latter is provided at its front with an

extension adapted to receive a shaker of the ordinary construction, whereby the grate may be readily rotated for removing ashes from the fire-pot.

5 By arranging the support or seat 5 above the seam which connects the body 1 of the stove with the base and by spacing the seat from the said seam the latter is not subjected to the intense heat at the top of the fire-pot
10 and there is no unequal expansion and contraction of the parts of the joint. It has been found by experience that when the fire-pot is seated on the joint between the body and the base, or connected with the stove at
15 that point, the intense heat buckles the parts and opens the seam, which destroys the air-tight joint or connection between the body and the base. By constructing the body of the stove and the base of sheet metal
20 the expansion and contraction of the parts of the joints are uniform, and as the joint is not subjected to intense heat the air-tight connection is preserved.

The extended base admits of the use of an
25 ash-pan 10, which is of greater diameter than the bottom of the fire-pot, whereby all of the ashes shaken from the grate will fall into the ash-pan. This will keep the bottom of the base or fire-pot clean and will obviate
30 the necessity of using a shovel or other means for removing ashes from the stove. The base is provided at its front with an approximately elliptical opening 11, and it has a projecting flange or extension 12, forming a
35 mouth and receiving a removable door 13. The door 13, which is provided with suitable handles, has a projecting flange 14, which fits into the extension or flange 12 of the base, as clearly shown in Figs. 3 and 4 of the
40 drawings. The door is also provided with a central aperture receiving a removable closure 15 for controlling the draft.

The stove, which is constructed of sheet metal, is exceedingly inexpensive in construction, and it is light, strong, and durable, and the joints are perfectly air-tight. It is adapted to secure a maximum heating effect with a given quantity of fuel, owing to such construction, and the heating capacity of the stove is
50 further increased by reason of the fire-pot being extended into the base or ash-pit of the stove. The extension of the fire-pot into the base or ash-pit of the stove gives radiation within the base and enables the latter to heat
55 with the same efficiency as a base-burner, and it obviates the necessity of employing bottom flues for this purpose. The fire-pot may be extended into the base or ash-pit to a greater or less extent, and its bottom is of less diameter
60 than the ash-pan, so that all the ashes will fall into the latter.

It will be seen that the stove is especially adapted for burning soft coal and that it is capable of controlling the combustion of the same, as the joints of the stove will always remain perfectly air-tight and do not necessitate the use of stove putty or cement, which in a comparatively short time will fall out and cause a stove to leak. Furthermore, it will be clear that the durability of the fire-pot
65 is greatly increased and that the heating of the parts is rendered uniform, owing to the circulation within the base of the stove. Also the chamber within the base provides an ample ash-pit and permits an increased circulation, which increases the radiation and heating power of the stove.

Having thus fully described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In a stove of the class described, the combination of a hollow sheet-metal body, a hollow sheet-metal base of greater diameter than the body, a top connecting-piece united at its inner and outer edges respectively to
85 the lower edges of the body and to the inner edges of the walls of the base, the united edges of the said parts forming air-tight seams at both the inner and outer edges of the connecting-piece, and the said connecting-piece
90 being imperforate and forming an air-tight joint or connection between the body and the base, a seat or support located in the body above the top connecting-piece, and a tapering fire-pot supported at its top by the seat or
95 support and extending downward into the base and spaced from the said air-tight seams, whereby excessive heating of the seams is prevented, said fire-pot terminating short of the bottom of the base to admit of the placing
100 of an ash-pan on the said bottom.

2. A stove of the class described, comprising a body provided at its bottom with an approximately U-shaped portion opening outwardly, a hollow base composed of a bottom,
105 side walls having an outwardly-extending flange and a connecting top portion having its inner edge fitted within the U-shaped portion of the body and provided at its outer edge with a depending inwardly-extending
110 L-shaped flange forming a groove to receive the outwardly-extending flange of the sides of the base, and a fire-pot, substantially as described.

In testimony that I claim the foregoing as
115 my own I have hereto affixed my signature in the presence of two witnesses.

CHARLES T. McCARROLL.

Witnesses:

W. W. EPPS,
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