No. 719,827. PATENTED FEB. 3, 1903.

C. MATTHEWS.

HEATING STOVE.

APPLICATION FILED OCT. 29, 1902.

NO MODEL. 3 SHEETS—SHEET 1.

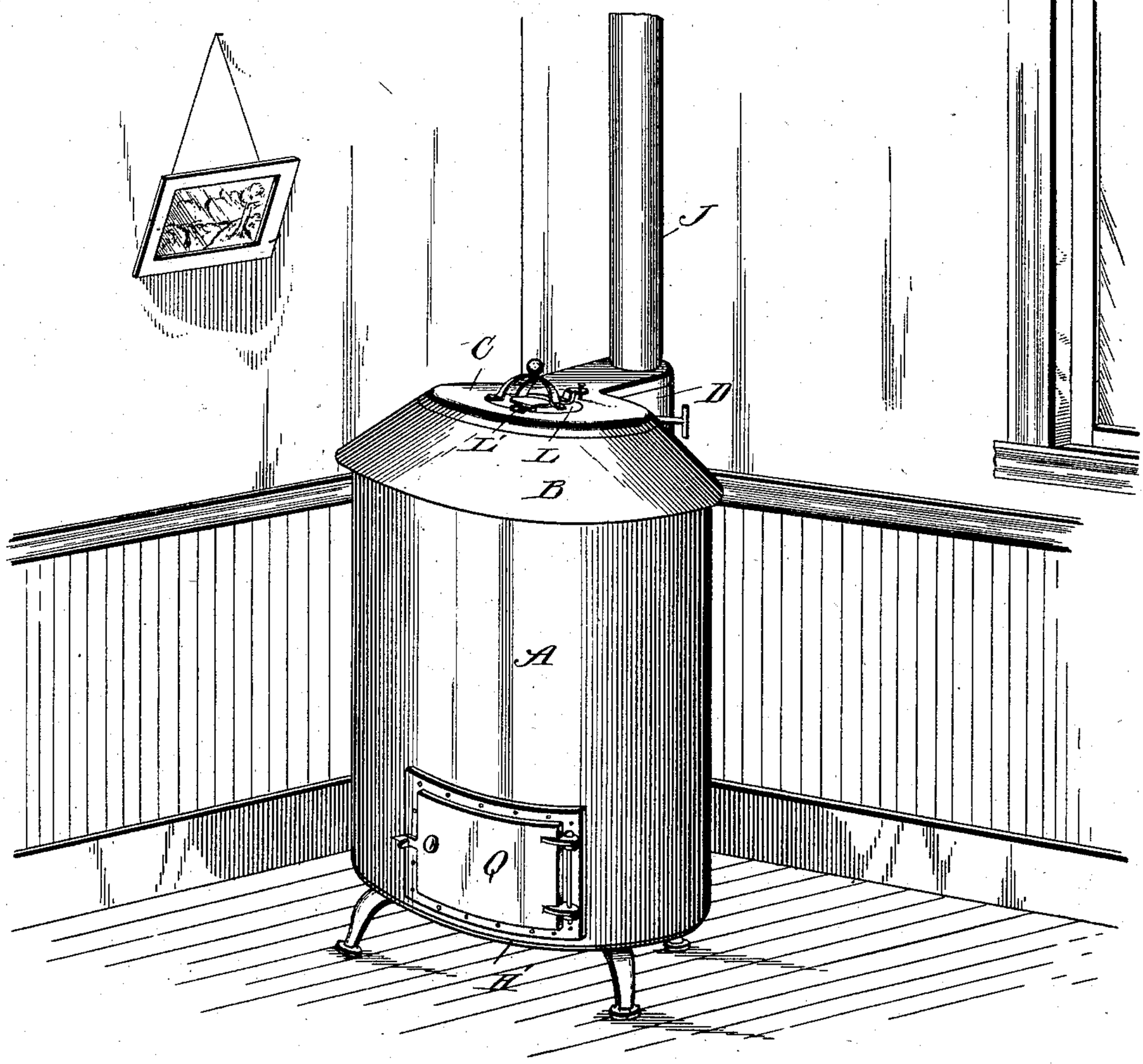

Fig. 1.

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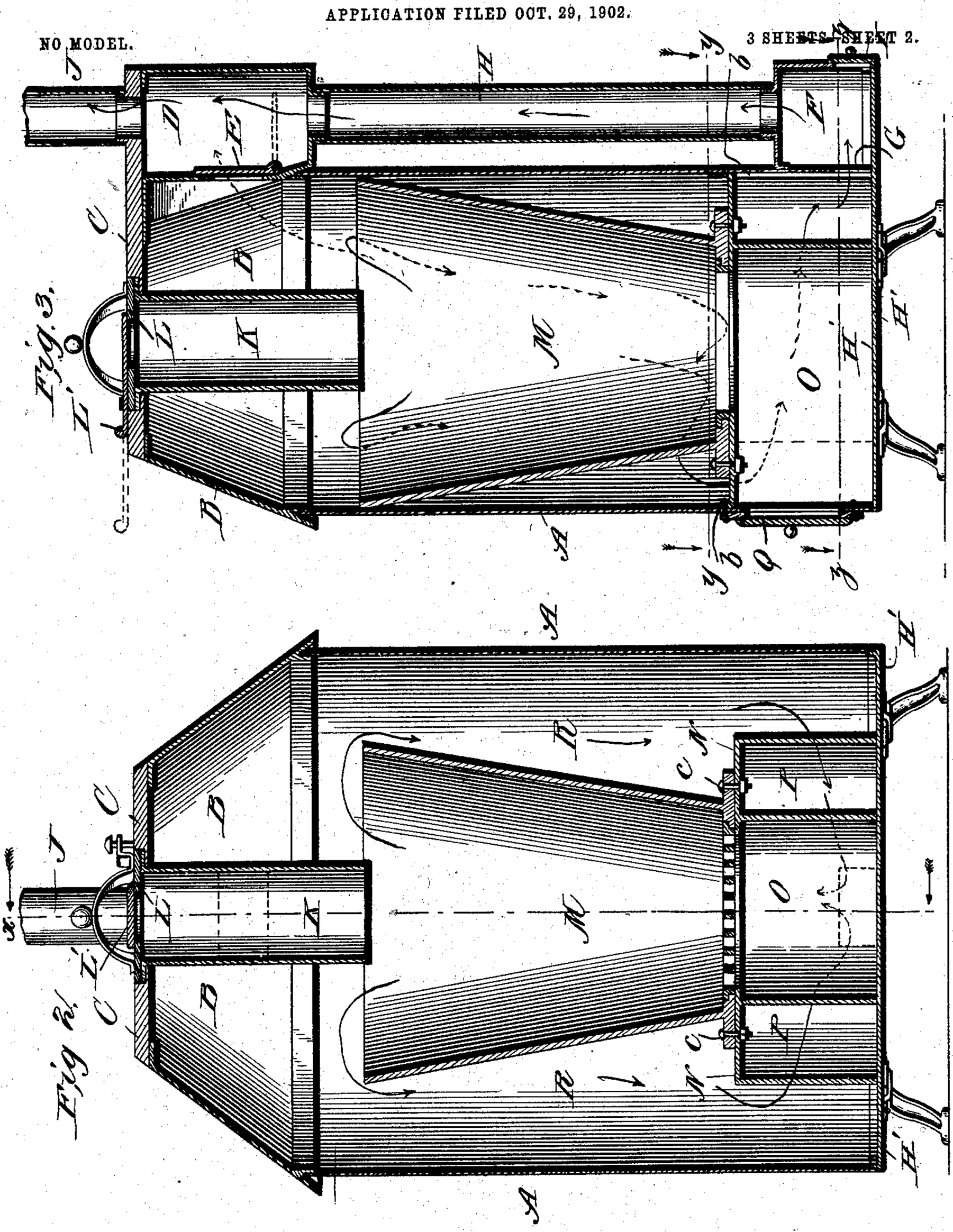
NO MODEL. 3 SHEETS—SHEET 2.



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NO MODEL. 3 SHEETS—SHEET 3.

Fig. 4.

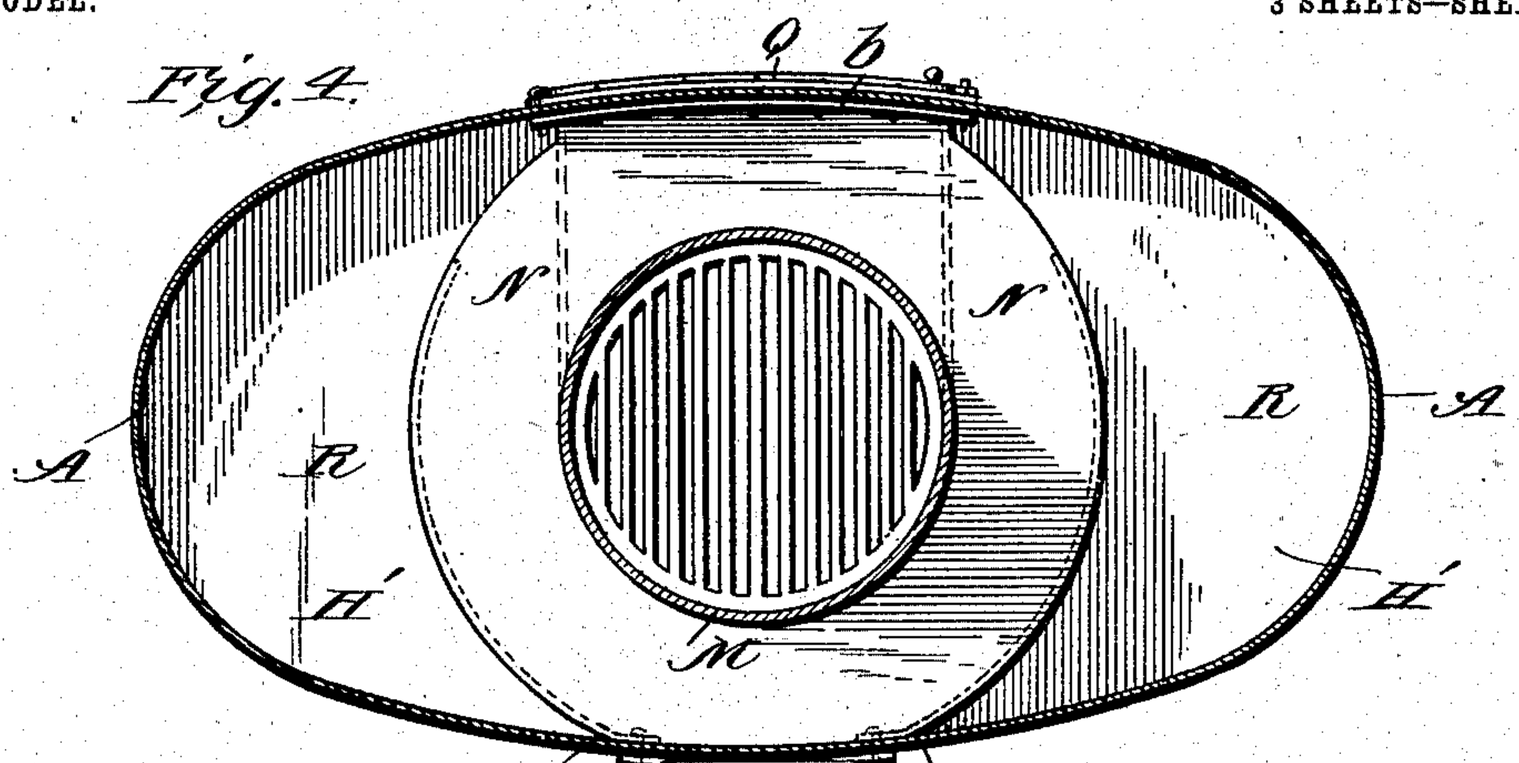


Fig. 5.

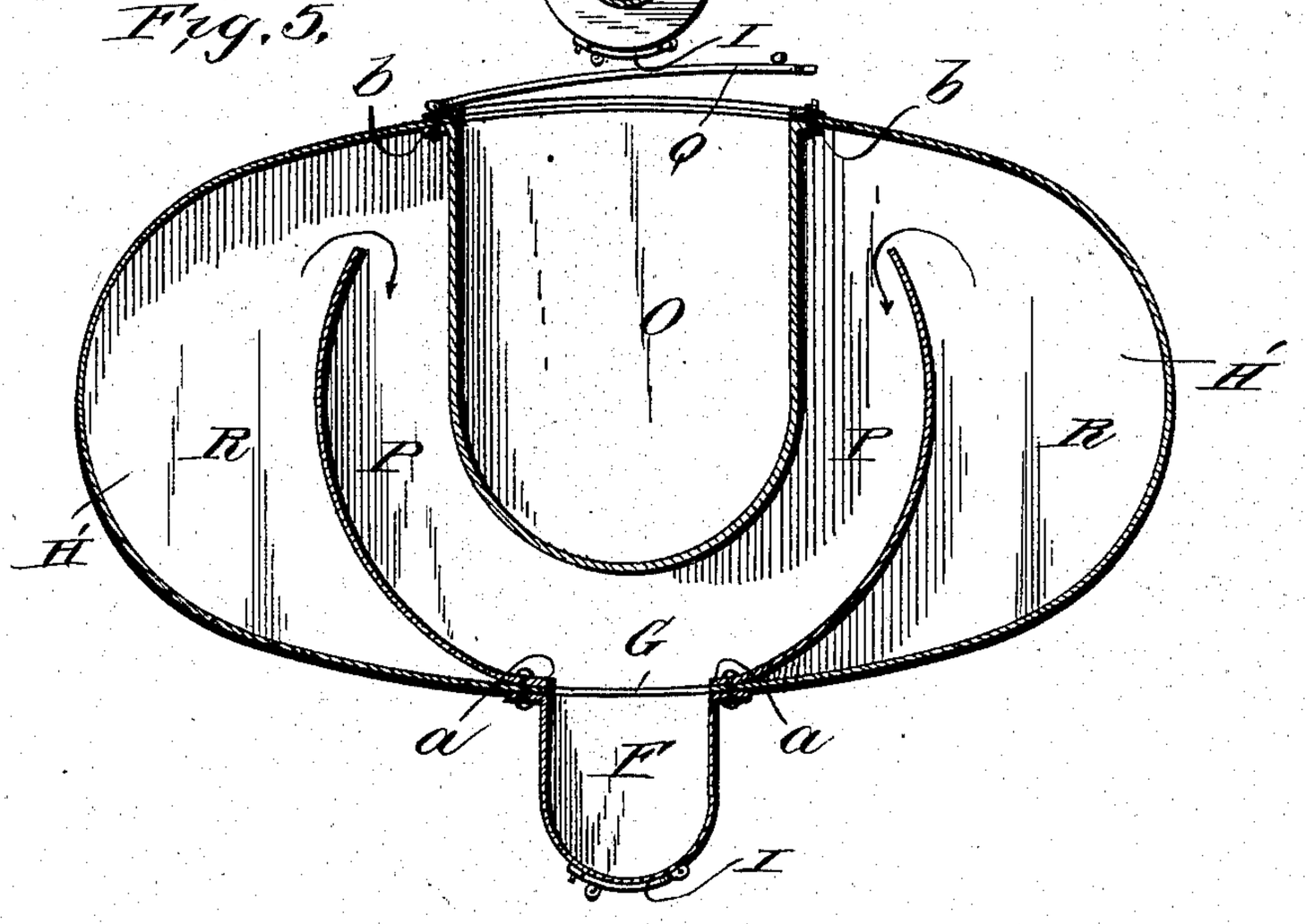
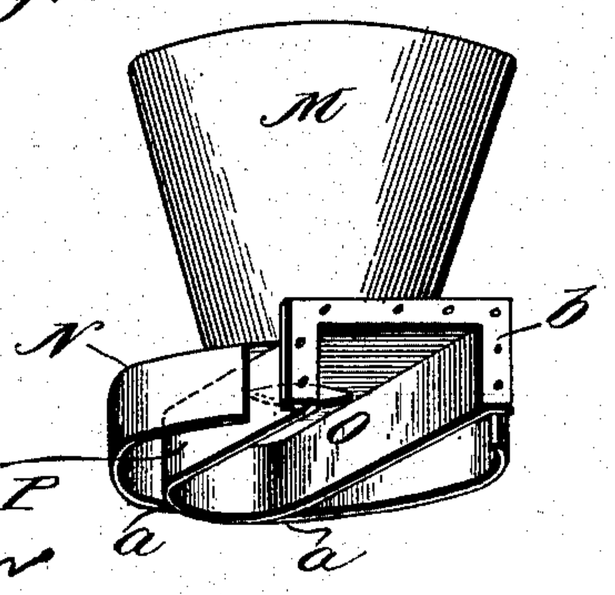


Fig. 6.



WITNESSES:

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CHARLES MATTHEWS, OF COLUMBIA, MISSOURI.

HEATING-STOVE.

SPECIFICATION forming part of Letters Patent No. 719,827, dated February 3, 1903.

Application filed October 29, 1902. Serial No. 129,230. (No model.)

To all whom it may concern:

Be it known that I, CHARLES MATTHEWS, a citizen of the United States, residing at Columbia, in the county of Boone and State of Missouri, have invented certain new and useful Improvements in Heating-Stoves, of which the following is a specification.

This invention relates to heating-stoves; and the invention resides in novel details of construction in the make-up of a heating-stove, whereby increased and more effective heating-surface is provided.

The following detail description of my invention, in connection with the accompanying drawings, forming a part of this specification, will render it fully understood.

In the drawings, Figure 1 is a perspective view showing my invention in use. Fig. 2 is a central vertical sectional view looking from the front of the stove. Fig. 3 is a similar sectional view taken on dotted line *x x*, Fig. 2, and looking in direction of the arrow. Fig. 4 is a horizontal sectional view taken on line *y y*, Fig. 3. Fig. 5 is a similar sectional view taken on line *z z*, Fig. 3; and Fig. 6 is a detail perspective view of the fire-pot, ash-pit, and draft-passage castings.

In carrying out my invention I employ an outer casing A, elliptical or oblong in horizontal section, having a substantially conoidal upper end B and a flat or other desired shape top plate C.

On the rear and at the top of the casing A, I arrange a compartment D, made communicating with the interior of the casing A by a damper E. At the base of the casing closed by a bottom plate H′, I arrange a compartment F, communicating with the interior of the stove through an opening G. The two compartments D F just described have communication through a pipe H. The compartment F is provided with a clean-out door I, as shown in Figs. 3, 4, and 5. A smoke-delivery pipe J is connected with the compartment D on top, as shown, or at other desired position. From the top plate C depends within the casing A a suitable magazine K, closed at its upper end by a suitable lid L, having in it an opening closed by an adjustable slide L′.

Within the casing I arrange a two-part casting, the upper of which constitutes the fire-pot M, while the lower part N is formed with a pocket O, serving as the ash-pit, and side passage-ways P, leading from near the front wall of the casing A to the rear wall thereof, as shown in Fig. 5. It will be noticed that an opening, with securing-flanges *a*, is made in the rear wall of the passage-way P, with the same arranged coinciding with the opening G into the compartment F.

The ash-pit O is closed at its rear portion and at the front thereof provided with a flange *b*. (See Figs. 4, 5, and 6.) The latter flange is made to surround the ash-pit opening in the front wall of the casing A, which opening is closed by a suitable door G. If desired, the castings M N may be formed in one piece. In my drawings I show them separate and bolted together, as at *c*.

The flanges *a* and *b* on the casting N are provided with a series of perforations adapted to receive bolts or rivets, affording securing means of the said castings M and N to the front and rear wall of the casing A. The same bolts or rivets are also utilized for securing the compartment F and also the ash-pit door-frame.

It will be noticed from Figs. 4 and 5 that the casting N is substantially circular in form and that it fills the space within the casing from front to rear, leaving the end open and unobstructed spaces or chambers R, which latter extend from the top plate C at the upper inner end of the casing to its bottom plate H′. With such construction the whole exterior surface of the stove, save a small space under the ash-pit O, is in contact with the products of combustion direct from the fire-pot M.

It will be understood that the damper E may be opened for direct draft into the compartment D and out through the smoke exit or delivery pipe J. With the damper E closed, as shown, the draft would be down through the end spaces R to and against the bottom plate H′, thence along the latter to the front wall of the casing and through the openings, (indicated by the arrows, Fig. 5,) and thence backward through the passage-ways P P, with the heat in contact with the bottom plate H′, and thence through the opening G into the compartment F, up the pipe H, through the compartment D and the delivery-pipe J.

The magazine K extends down with its

lower end even, or nearly so, with the upper edge of the fire-pot M, and it is used for two purposes—first, to convey coal to the fire-pot M and at the same time prevent it from falling into the flues or chambers R R, and, second, when the slide-damper L at the top of the stove is opened air passing down on top of the fire through the magazine K becomes heated and expanded to such degree, thereby better adapted to consume the smoke and gases by admixture thereof as they are discharged from the top of the fire-pot, thus excluding smoke from the flue-chambers R R. In giving draft to the fire in this way the combustion is so complete that no clinkers are formed in the stove.

Advantage in my invention resides in the facility afforded for cleaning out the passage-ways P through the door I in the compartment F. Any suitable grate W may be used and well-known raking devices or attachments employed. The fire is fed through the magazine by removing or turning sidewise the lid L.

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

1. The combination in a heating-stove, of an elliptical casing and a practically circular fire-pot and lower casting, the latter having an ash-pit closed at its rear and opening through the front wall of the casing, and also side passage-ways in direct contact with the base-plate of the stove, the said passage-ways leading from near the front wall of the casing to the rear wall thereof, and a common draft-outlet substantially as described.

2. The combination in a heating-stove, of an elliptical casing, a two-part casting arranged within the casing and extending from front to rear thereof leaving unobstructed end combustion-chambers within the casing extending from its top to the bottom thereof, the upper part of the said casting being formed into a fire-pot and the lower part thereof being formed with an ash-pit and side passage-ways, the said passage-ways leading from near the front wall of the casing to a common outlet, a compartment in communication with the said outlet, an upper compartment having a damper providing direct communication with the interior of the casing, a pipe connecting the said upper and lower compartments, a smoke-delivery pipe, and a fuel-feed opening in the casing substantially as described.

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Witnesses:
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