

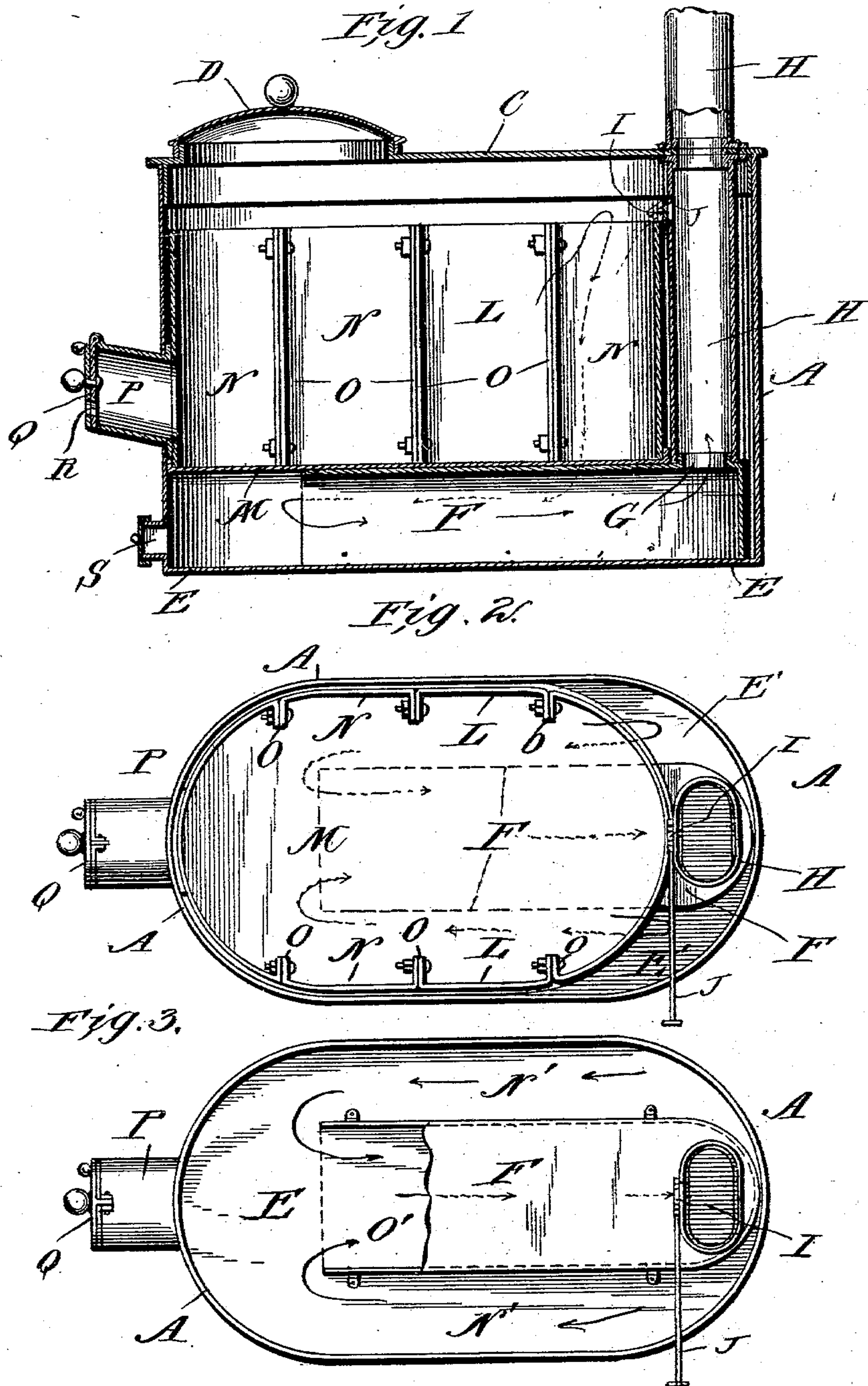
No. 704,889.

Patented July 15, 1902.

C. MATTHEWS.  
HEATING STOVE.

(Application filed Apr. 14, 1902.)

(No Model.)



WITNESSES:

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# UNITED STATES PATENT OFFICE.

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## HEATING-STOVE.

SPECIFICATION forming part of Letters Patent No. 704,889, dated July 15, 1902.

Application filed April 14, 1902. Serial No. 102,743. (No model.)

*To all whom it may concern:*

Be it known that I, CHARLES MATTHEWS, a citizen of the United States, and a resident of 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:

My invention relates to stoves more particularly intended for burning wood, hay, straw, and other like material as fuel; and, briefly stated, the invention consists in special details of construction whereby not only increased heating-surface is provided, due to peculiarly-arranged smoke-flues, but owing to its special construction or conformation with interchangeability of parts, such that when any part may be burned out the same can be removed and replaced by any person—that is, by the unskilled.

With the above statement of the nature and advantages briefly enumerated I will now proceed to describe my invention in detail, reference being had to the accompanying drawings, which form a part of this specification, and in which—

Figure 1 is a view showing a central vertical longitudinal section through my stove. Fig. 2 is a plan view with top removed; and Fig. 3 is a similar view with the top of the stove, inner lining, and inner bottom removed, showing the arrangement of smoke-passages under the inner bottom—that is, the bottom of the fire-box.

In the drawings, A indicates the outer shell or body portion of my stove, which is formed of sheet metal and provided with a removable top C, having located near one end thereof a feed-opening D. The body portion or shell is closed at its bottom, as indicated at E, with sheet metal, such as is employed in the fabrication of the body portion or shell or of thicker metal, as may be desired.

Within the body portion A, resting on the bottom E and secured thereto in any approved manner, I arrange a box-like compartment F, open at its forward end. The rear end of the compartment F is closed, as shown; but in the top surface thereof is provided an opening G, having an annular flange adapted to enter the lower end of a smoke-flue H, extending upwardly at the rear end within the body

or shell, as shown in Fig. 1 of the drawings. At the upper end of the flue H is provided a damper I of any approved construction, which may be worked by a rod J, shown in my drawings projecting horizontally through the shell of the stove; but obviously the said rod J may be arranged to work or project downwardly through the top C and adapted to work the said damper I, as may be desired. The flue H extends up to the top C and around a collar on the lower side thereof, as shown. On the upper side of the top a similar collar is provided for supporting a length of pipe, which through a suitable opening in the top communicates with the flue H.

The fire-box of my stove is formed of a lining L and a bottom M, both of which are removable. The lining L and the bottom M may be fabricated of sheet metal of suitable thickness or of cast metal, as may be desired. The lining L is formed of sections N, having inturned flanges O, adapted to be secured together, as shown in Fig. 2 of the drawings, by bolts or rivets or other approved method.

It will be noticed that the lining L and the inner bottom M do not extend the full length of the body portion of my stove. In other words, they only extend from the front wall back to the smoke-flue H. With such construction of the parts a passage-way E' is formed on both sides of the flue H and each of which connects with a passage-way N', extending along the bottom E on both sides of the compartment F. The forward or open end of the compartment F being located near the front of the stove, it is apparent that the products of combustion will pass up over the rear wall of the lining L and down the passage-ways N on both sides of the flue H to the passage-ways N' and along the bottom of the stove to the front or open end of the compartment F and thence rearwardly through said compartment to and out through the flues H and K.

In the front walls of the body portion or shell I arrange a short section of pipe P, which registers with a suitable opening in the lining L, affording draft for the fire. The outer end of the pipe P is closed by a hinged door Q, having in it a small opening R, the latter to support combustion in a slow fire.

S indicates a clean-out opening closed by a



suitable cap, which will be understood, and therefore not necessary to be further described.

In starting a fire the damper I should be  
5 opened to form a direct draft. When the fire is well started, the said damper should be closed, and when it is closed the draft will be down the passages E' and along the full extent of the bottom E, as hereinbefore described,  
10 and from which heat will radiate to an appreciated degree.

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

15 1. In a heating-stove of the character described, the combination with a smoke-passage involving an open-ended and fixed compartment, substantially as described, secured to and of less width than the bottom of the  
20 stove and thereby forming side passage-ways, as shown, and a vertical flue connecting the rear end of the said compartment and extending up through the top of the stove, of a fire-box formed by a detachable closed bottom,  
25 and side walls ending short of the length of the stove forming passage-ways on both sides of the said vertical flue, said passage-ways connecting the passage-ways along the bottom of the stove, substantially as described.

30 2. The combination in a heating-stove, of a

fire-pot of length shorter than the interior of the body of the stove, downward smoke-passages on both sides of a vertical smoke-pipe within the body of the stove and communicating with horizontal passage-ways on both  
35 sides of a fixed compartment located between the bottom of the fire-pot and the bottom of the body or outer shell of the stove, open communication at the forward end of said fixed compartment with the horizontal side pas-  
40 sage-ways, and open communication at the rear of said fixed compartment with the vertical pipe located at the rear of the stove and between the walls of the fire-pot and shell or body portion, substantially as described. 45

3. The combination in a heating-stove, of a fire-box formed of a series of sections having abutting and connected inturned edges and a closed bottom as shown, and smoke-passages at the rear of the stove connecting the fire-pot  
50 through suitable horizontal passage-ways extending from rear to front along the bottom of the stove with a vertical uptake or smoke-pipe within the walls of the body portion, substantially as described.

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Witnesses:

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