L. E. HOPKINS.

Agricultural Boiler.

No. 2,306. Patented Oct. 11, 1841.

Fig: 4.

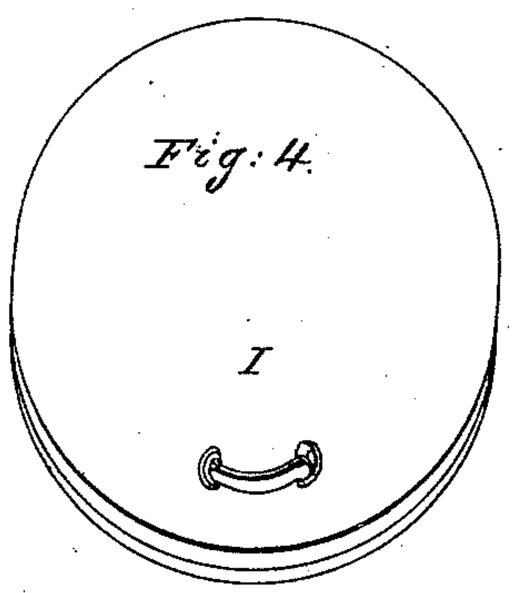


Fig: 1.

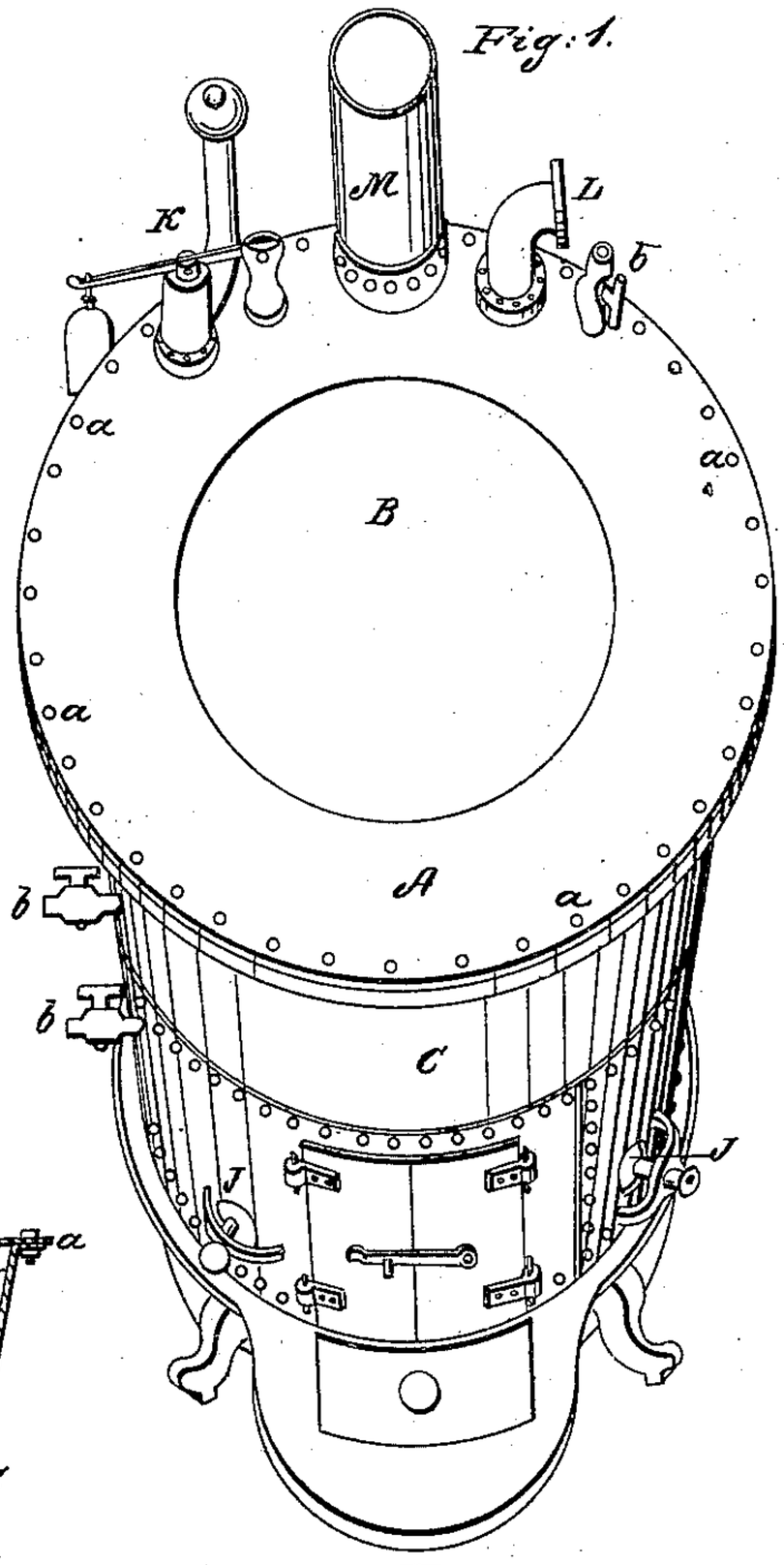


Fig: 2.

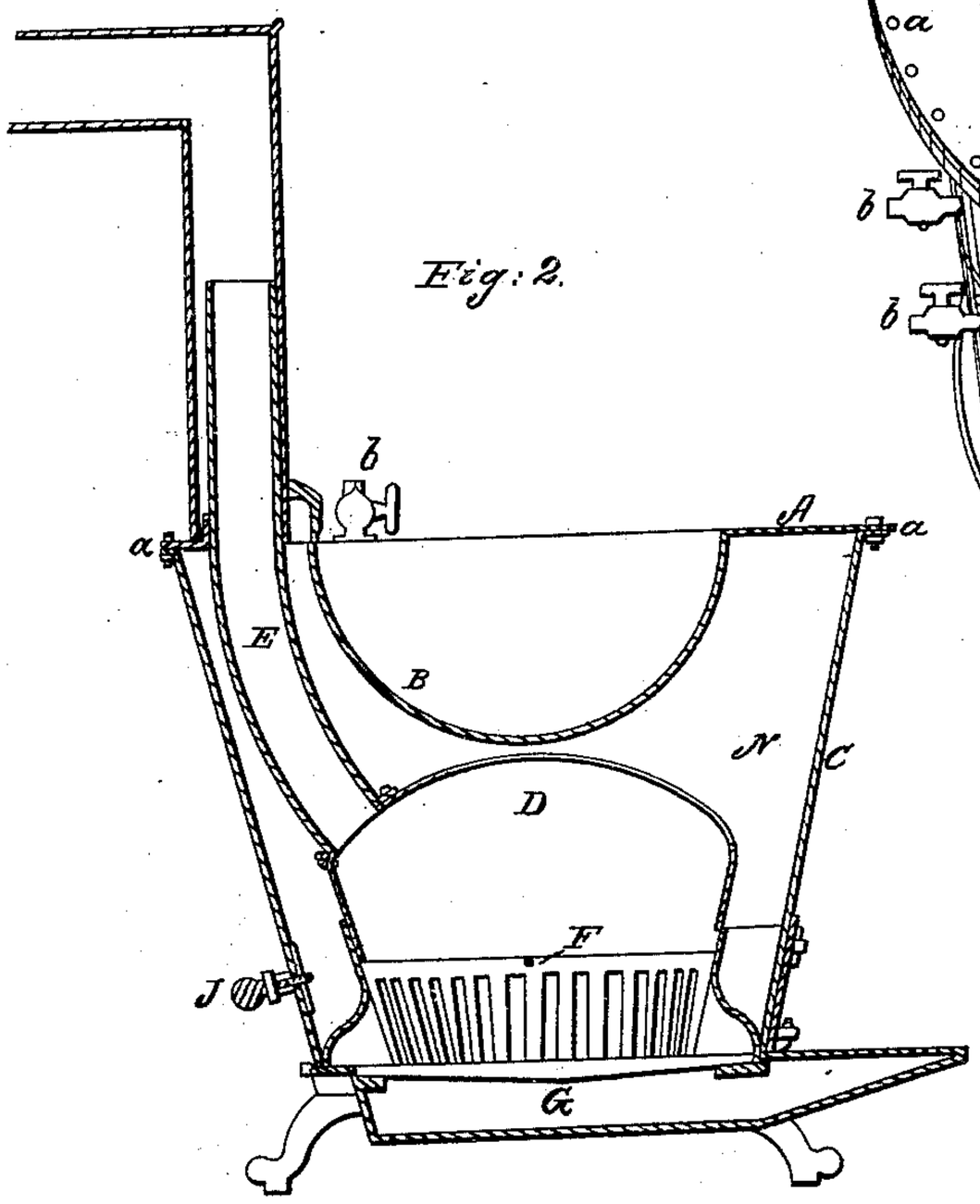
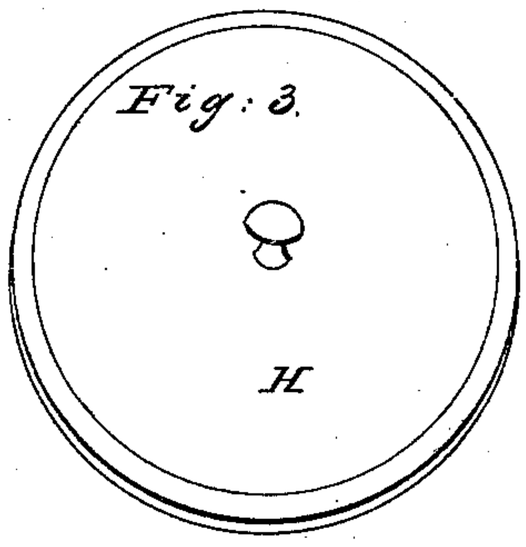


Fig: 3.



UNITED STATES PATENT OFFICE.

LANSING E. HOPKINS, OF NEW YORK, N. Y.

IMPROVEMENT IN THE METHOD OF CONSTRUCTING A COMBINED CALDRON, STEAM-BOILER, AND FURNACE.

Specification forming part of Letters Patent No. **2,306**, dated October 11, 1841.

To all whom it may concern:

Be it known that I, LANSING E. HOPKINS, of the city of New York, in the State of New York, have invented a new and useful Combined Steam-Boiler and Caldron, which apparatus is intended principally for the use of farmers and graziers in preparing food for cattle, but which may be advantageously used also for other purposes in domestic economy and manufactures; and I do hereby declare that the following is a full and exact description thereof.

In the accompanying drawings, Figure 1 is a perspective view of the boiler and caldron, and Fig. 2 a vertical section thereof through its middle.

A is a cap-piece or rim, which may consist of a plate of cast-iron.

B is the caldron, which may be cast in one piece with the cap-piece or rim A.

The body C of the boiler is best made of sheet-iron, and this is furnished with a flange, to which the cap-piece is united by rivets or screws, as at *a a*. The bottom plate also may be of cast or of wrought iron and be united to the body in a similar way.

The furnace or fire-chamber D, I make in the form of a dome, as shown in the drawings, this form admitting more freely of expansion and contraction and sustaining the pressure of the steam more securely than any other. The bottom part of the fire-chamber is composed of horizontal grate-bars, having an ash-pit G beneath them in the usual way. I sometimes, more especially when coal is to be used as fuel, employ vertical grate-bars, as shown at F, and these may be extended around the whole interior of the fire-chamber. The space N within the body C and surrounding the fire-chamber is to be filled with water to a proper height, and constitutes the steam-boiler. It is furnished with tri-cocks *b b b*, and with holes and stoppers J to admit of cleaning out the interior of the boiler.

The smoke-pipe E, Fig. 2, is carried through the space N and is seen emerging at M in Fig. 1.

K is a safety-valve constructed in the usual way.

L is a steam-tube from which the steam may be conducted wherever it may be required for the purpose of steaming, heating, or cooking articles in receivers or cases of wood or metal.

H, Fig. 3, is a lid or cover for the caldron, made in the ordinary form.

I, Fig. 3, is a raised or dome-formed cover, which may be used to contain articles to be steamed over the caldron.

In an apparatus of the form and construction above described steam of high pressure may safely be generated, so as to render it efficient for a great variety of purposes, and if a steam-tight cover is substituted for the covers H or I of the caldron said caldron will be converted into a digester, as the liquid contained in it may be elevated above that of the ordinary boiling-point. This apparatus will be specially useful for various purposes in domestic economy, such as the trying out tallow and lard, making soap, evaporating maple-juice or other fluids, and it may also be applied to manufactures of various kinds. It may be made of various sizes, according to the wants of those who use it.

Having thus fully described the nature of my combined steam-boiler and caldron and shown the manner in which the same is to be constructed, what I claim therein as new, and desire to secure by Letters Patent, is—

The particular manner herein set forth of arranging and combining the furnace, the steam boiler or generator, and the caldron, the general form and arrangement of these parts being substantially the same with those described, without, however, intending by the accompanying description and representation to limit myself to any precise shape or proportions of the respective parts, but to vary these as I may find convenient.

LANSING E. HOPKINS.

Witnesses:

WILLM. BALLARD,

THOS. J. SOMMERS.