2 Sheets—Sheet 1.

W. M. PARKER & W. W. YOKOM.

Feed-Steamer.

No. 205,409. **Patented June 25, 1878.**

Fig. 2.

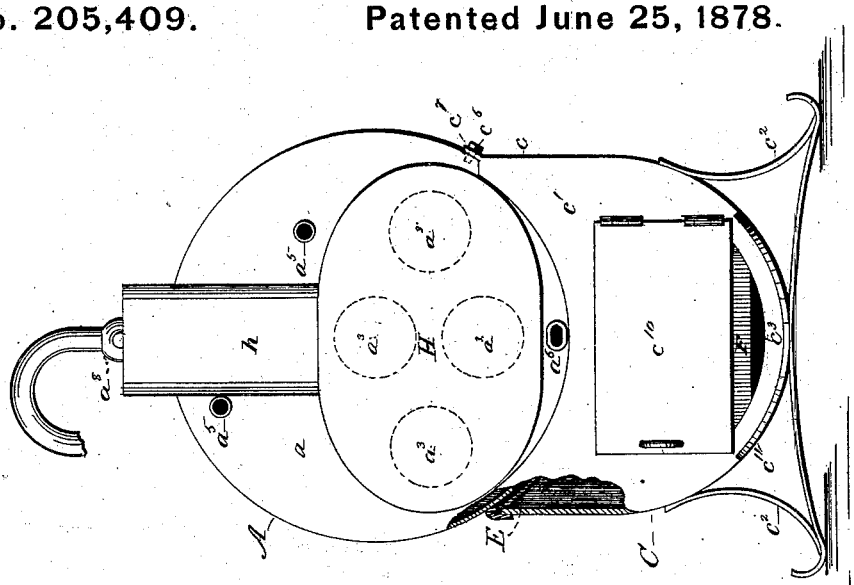
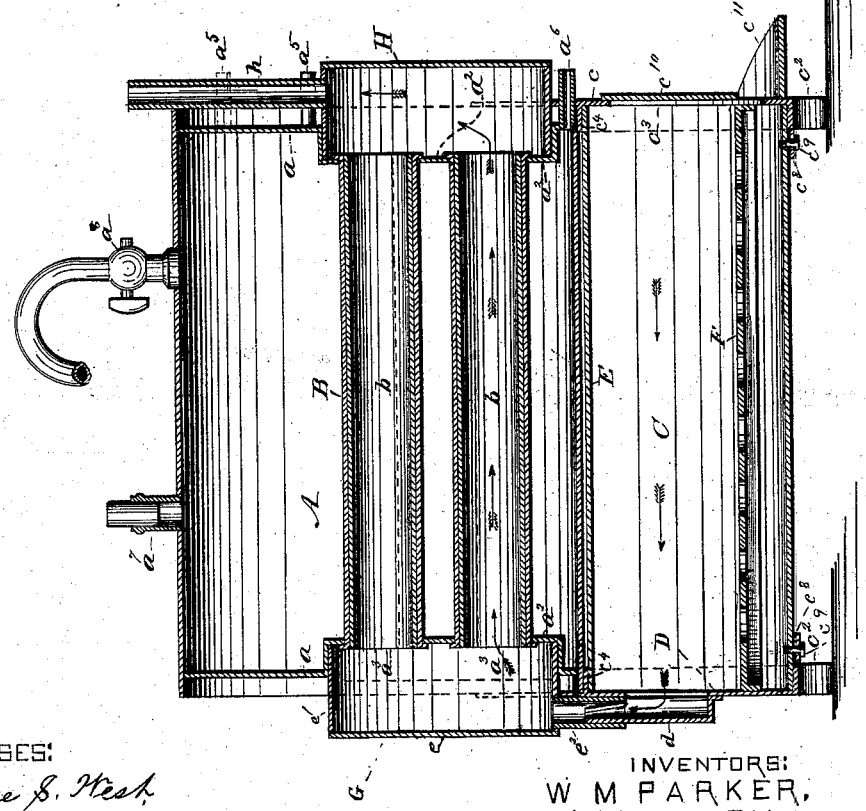


Fig. 1.



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W. M. PARKER & W. W. YOKOM.

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Fig. 3.

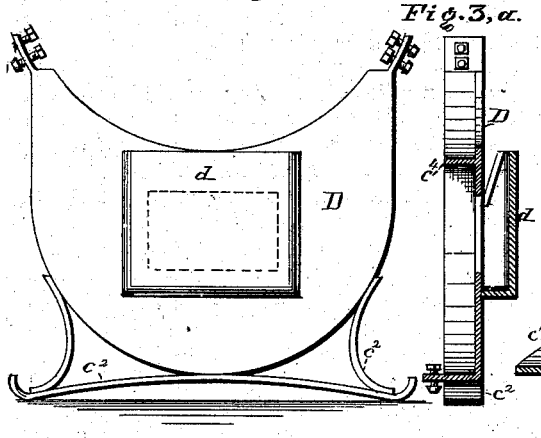


Fig. 3, a.

Fig. 4, a.

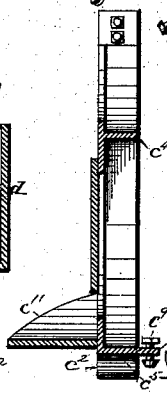


Fig. 4.

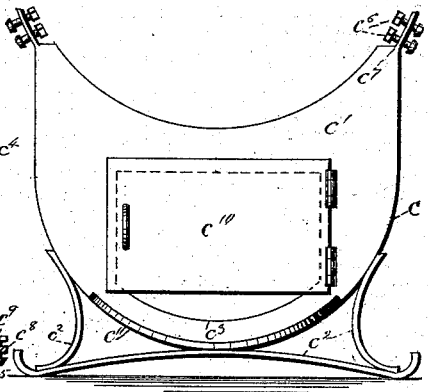


Fig. 5.

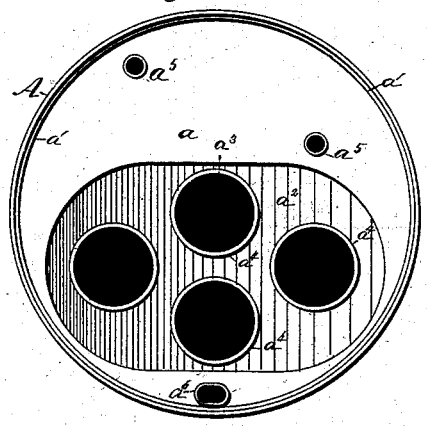


Fig. 7.

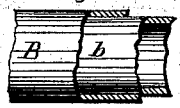
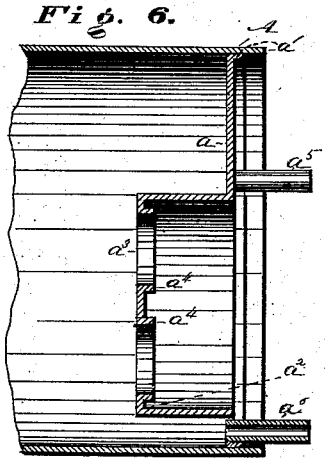


Fig. 6.



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UNITED STATES PATENT OFFICE.

WILLIAM M. PARKER AND WILFORD W. YOKOM, OF PARKERSBURG, IOWA.

IMPROVEMENT IN FEED-STEAMERS.

Specification forming part of Letters Patent No. **205,409**, dated June 25, 1878; application filed June 2, 1877.

To all whom it may concern:

Be it known that we, WM. M. PARKER and WILFORD W. YOKOM, of Parkersburg, in the county of Butler and State of Iowa, have invented a new and useful Improvement in Feed-Steamers; and we do hereby delare that the following is a full and exact description of the same, reference being had to the accompanying drawings and to the letters of reference marked thereon.

This invention, which we term the "Hawk-eye Feed-Steamer," relates to that class of boilers which are employed for steaming food for stock; and it consists, mainly, first, in the combination, with the permanent flues, of a removable lining-pipe; and, second, in the combination, with permanent flues and removable lining-pipes, of certain removable caps.

It consists, further, in certain details of construction, which, in connection with the foregoing, will be fully described hereinafter.

On the drawings, Figure 1 represents a central longitudinal sectional elevation of our invention; Fig. 2, a front elevation of the same; Fig. 3, a rear end elevation of the fire-box; Fig. 4, a front end elevation of the fire-box; Fig. 5, a front elevation of the boiler with the cap removed; Fig. 6, a central longitudinal sectional elevation of the same; and Fig. 7, an elevation, partially in section, of the flue B and the interior lining-pipe *b*.

To enable others skilled in the art to make and use our invention, we will now proceed to describe fully its construction and manner of operation.

A represents the cylindrical body or shell of the boiler, constructed of any proper size and suitable material, but preferably of heavy galvanized iron. *a a* represent the boiler-heads, constructed generally in any proper manner, but preferably stamped from a plate of extra heavy galvanized iron.

a^1, Fig. 6, represents a flange of proper width, projecting from the circumference of the heads, and a^2 an oval recess formed in the lower part of the same by depressing that portion the plate, as shown. a^3 a^3 represent holes of any proper size and number, which are formed in the depressed portion of the plate; and a^4 a^4, flanges of proper width surrounding the holes, as shown.

The heads of the boiler are united to the shell by driving them tightly in place, and then riveting and soldering them to make a perfect joint. a^5 a^5 represent water-gages of any proper description, and a^6 a draw-off cock, by means of which the contents of the boiler may be entirely discharged when desired.

a^7, Fig. 1, represents a proper pipe or opening, by means of which the boiler may be supplied with water, and which may be so arranged, also, as to serve as a safety-valve; and a^8, a discharge-pipe, through which the steam formed therein may be conveyed away to any desired point.

B, Figs. 1 and 7, represents the pipes or flues, of any proper diameter and length, formed preferably of heavy galvanized iron, which are driven to their places in the heads in the usual manner, and are then riveted and soldered to the flanges around the openings in any proper manner.

b, Figs. 1 and 7, represents an internal pipe of sheet-iron, which forms a lining for the flue proper, and protects the same from the direct action of the heat.

C, Figs. 1 and 2, represents the body of the fire-box, consisting preferably of a heavy piece of boiler-iron bent into semi-cylindrical or semi-oval form, as shown.

c, Figs. 2 and 4, represents the front-end section of the fire-box, consisting of a casting or plate c^1 of semicircular or semi-oval form, to correspond with the fire-box in cross-section, which is provided with the supporting-legs c^2 c^2, the opening c^3 for the door, the inwardly-projecting flange c^4, Fig. 4ª, adapted to receive and support the boiler, as shown, and the inwardly-projecting flange c^5, adapted to receive and support the shell of the fire-box.

c^6 c^6, Figs. 2 and 4, represent proper bolts in the arms c^7 c^7, by means of which the boiler is securely fastened to the casting when all the parts are in place. c^8 represents an ear or lug, and c^9 a rivet or bolt, by means of which the shell of the fire-box is securely united to the casting. c^{10} represents the fire-door, and c^{11} the hearth-plate.

D represents the rear-end section of the fire-box, consisting of a cast plate, similar to the front-end section, but provided with an open

ing and flue plate or box *d*, by means of which the heat and products of combustion are discharged from the fire-box, as shown in Fig. 1.

E, Figs. 1 and 2, represents a plate, preferably of sheet-iron, which is placed underneath the boiler, as shown, for the purpose of protecting the same from the direct action of the heat. This plate is bent at its edges, so as to hook over the fire-box, as shown in cross-section in Fig. 2.

F represents the grate, of any proper construction. G, Fig. 1, represents a cap, consisting of an oval plate, *e*, having a flange, e^1, adapted to project into the oval recess of the boiler-head, as shown. e^2 represents a flue or pipe, by means of which connection is made with the flue-box *d* of the end section D, as shown.

H, Figs. 1 and 2, represents a similar cap, adapted to fit the oval recess at the front end of the boiler, which is provided with a pipe or flue, *h*, adapted to convey away the products of combustion to any proper point of discharge.

The operation of our improved apparatus will be readily understood. Fire having been made in the fire-box, the products of combustion pass through the flue-box, rear cap-chamber, and flues to the front cap-chamber and smoke-pipe, as indicated by the arrows, Fig. 1, by which means the water in the boiler is heated and steam generated, for the purpose described. From the boiler the steam is conveyed through a rubber tube or other proper pipe to the vat, trough, or other receptacle containing the food to be steamed.

Some of the advantages of this construction are as follows: The fire-box being made in sections, different materials can be used in its construction, and it can be readily put together for use. By means of the interposed shield or plate the boiler is protected from the direct action of the heat. When this plate has been injured by long use, it may be easily removed to permit the introduction of a new one by removing the bolts which fasten the boiler to the end sections. The oval caps may be readily removed when desired, so that the lining of the flues may be removed for the introduction of new pipes when desired.

The construction as a whole is simple, yet well adapted for the purpose described.

If desired, two or more discharge-pipes for drawing off the steam may be used.

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

1. In a boiler having permanent flues and a removable-lining pipe, a removable cap, substantially as described, adapted to permit access to the flues.

2. In combination with a boiler having permanent flues and removable lining pipes, the caps G H, adapted to permit access at each end, as described, for the purpose set forth.

3. In combination with the fire-box D, having the flue-box *d*, the removable cap G, having the flue e^2, as described.

4. In combination with the semi-cylindrical body C and the interposed plate E, the independent ends *c d*, as described.

This specification signed and witnessed this 4th day of May, 1877.

WM. M. PARKER.
W. W. YOKOM.

Witnesses:
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D. H. BABCOCK.