

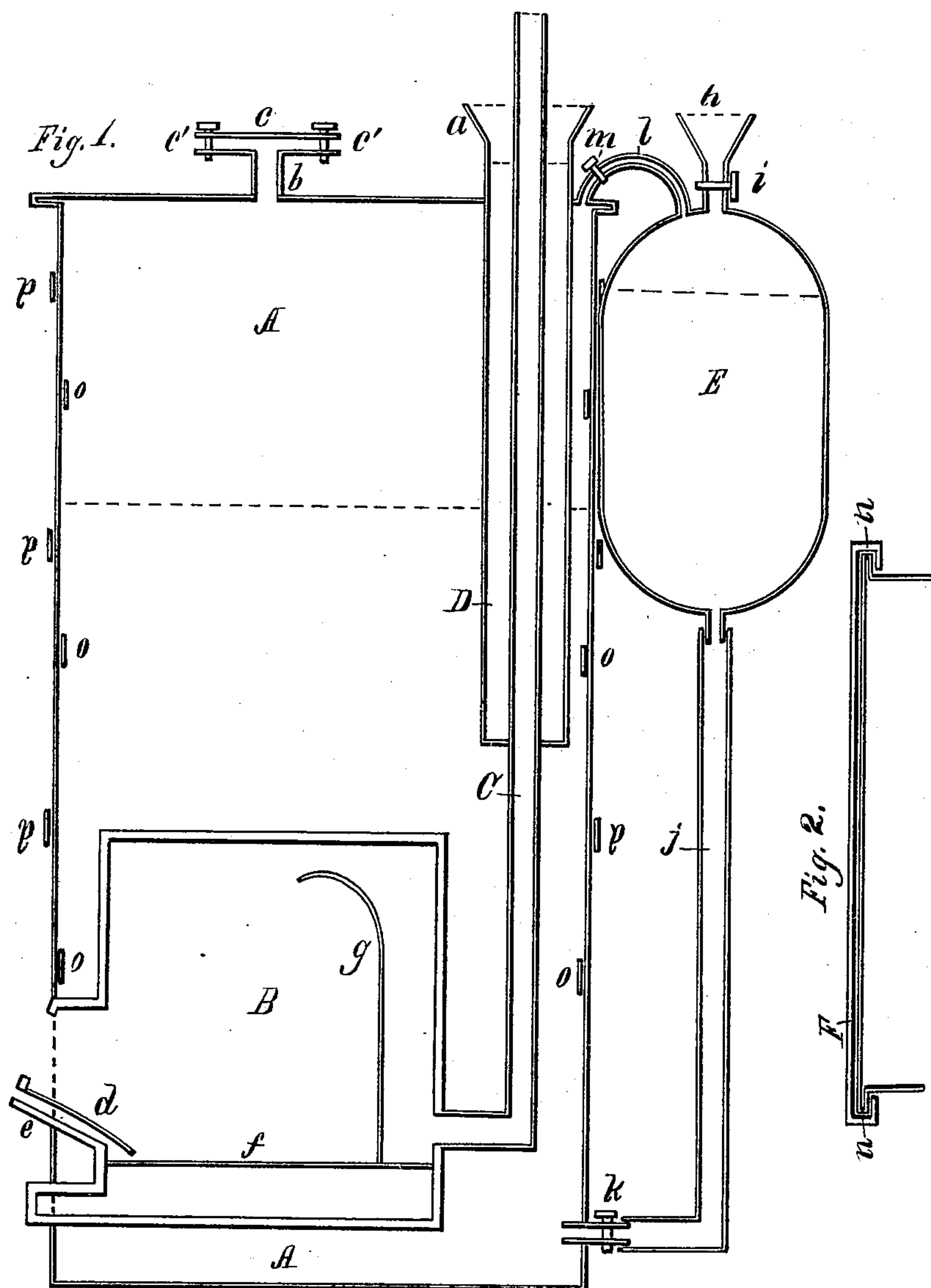
(No Model.)

J. W. GILMORE.

FEED COOKER.

No. 251,356.

Patented Dec. 27, 1881.



Witnesses:

Cyrus Kehr
C. N. Munson

Inventor:

James W. Gilmore.
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UNITED STATES PATENT OFFICE.

JAMES W. GILMORE, OF MORRISON, ILLINOIS, ASSIGNOR TO WILLIAM F. McMULLEN, OF SAME PLACE.

FEED-COOKER.

SPECIFICATION forming part of Letters Patent No. 251,356, dated December 27, 1881.

Application filed September 27, 1881. (No model.)

To all whom it may concern:

Be it known that I, JAMES W. GILMORE, a citizen of the United States, residing at Morrison, in the county of Whiteside and State of Illinois, have invented certain new and useful Improvements in Feed-Cookers; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it ap-

My invention pertains to that class of feed-cookers in which the cooking is accomplished by steam transmitted from the boiler by means of connecting tubes or pipes to the vessels in which the material to be cooked is placed; and my invention consists, essentially, in certain improvements in and about the boiler and furnace, which I will now proceed to describe.

In the drawings, Figure 1 is a sectional side elevation of a machine embodying my invention. Fig. 2 is a detached view of the top of the boiler, exhibiting my mode of re-enforcing the same.

A is an upright boiler, having beneath it the furnace B, constructed integral with the boiler.

C is the flue or smoke-pipe, which passes up through and out of the top of the boiler.

D is a stand-pipe, set into the boiler A and around the flue C. The stand-pipe D has a closed bottom, which extends below the lowest possible water-line in the boiler A, and has an open funnel-shaped top, *a*, for convenience in pouring in water. It is intended that the stand-pipe D shall be kept full, or nearly full, of water to protect the flue C from the action of the steam in the boiler A, and to prevent the escape of the steam into the flue C, in case of any minute openings through the latter.

In the upper end of the boiler A is seated the short steam-tube *b*, to which is affixed the cross-tube *c*, having the valves *c'* *c'*, and the ends of such cross-tube are attached to hose or tubes for conveying the steam into the vessels in which the feed to be cooked is placed. The furnace B is provided with the draft-deflector *d*. The air to feed the combustion passes through the furnace-door at *e*, and by the de-

flector *d* is delivered directly upon the top of the grate *f*. This I find much preferable to a draft below the grate which is liable to be obstructed by ashes, cinders, ore, &c., which accumulate on the grate. It is also to be preferred to a general delivering of air to or under the furnace-door above the grate, as in the latter case the draft is met by the cross-currents in the furnace and driven in great measure away from the immediate surface of the fire.

The partition *g* compels the smoke and heated air to pass out against the top and rear side of the furnace B, thus bringing such heat as near as possible to the water in the boiler A. The lower end of the flue C also passes through the water in the boiler A, thus imparting additional heat thereto. The furnace B is raised above the bottom of the boiler A, by means of which the water in the latter receives heat also from the lower part of the furnace B.

E is the supply-tank, affixed in any suitable manner to the rear of the boiler A, and is provided with a divergent opening, *h*, at the top and cut-off *i*, as a means of supplying the tank with water. A feed-tube, *j*, connects the bottom of the tank E with the interior of the boiler A, which tube is provided with a stop-cock, *k*, near its lower end. A short tube, *l*, connects the upper part of the boiler A with the supply-tank E, which latter tube is also furnished with a stop-cock, *m*. By means of the tubes *j* and *l*, with their respective stop-cocks, I can let the steam from the boiler A into the tank E, and thus preliminarily heat and force the water from such tank through the pipe *j* into the boiler A; or, if preferred, I can shut off the tube *l*, open the tube *j*, and permit the steam in the boiler A to force the hot water therein through the tube *j* into the tank E, to partly heat the water in the latter.

To strengthen the head of the boiler A against both lateral and vertical pressure, I provide the clamp F, formed at the ends into downward-projecting clutches *n n*, which are passed down over and engage the top of the boiler A, as shown in Fig. 2. As each clutch *n* is inwardly-projected at the extreme end and fits under a corresponding ledge on the outside of the boiler A, the re-enforce of the clamp F resists both lateral and vertical expansion of the boiler A.

To still further strengthen the boiler A against lateral expansion, I provide the inside braces, *o o o*, which are riveted to the boiler A, and the outside bands, *p p p*, which are clamped 5 to the inside of the boiler, and held and adjusted by means of thumb-screws passing through the outwardly-projected open ends of such bands.

What I claim as my invention, and desire to secure by Letters Patent, is—

- o The herein-described feed-cooker, consisting of vertical boiler A, having steam-outlet provided with valve or valves *c'*, furnace B, arranged in said boiler above its bottom and having deflector *d* and partition *g*, water-stand

D, extending down into said boiler below its 15 water-line and having a closed bottom, combustion-flue C, extending up through boiler and stand-pipe, and exterior supply-tank, E, having pipes *l j*, with stop-cocks *m k*, communicating with said boiler at or near its top and bottom, 20 substantially as specified.

In testimony whereof I affix my signature in presence of two witnesses.

JAMES W. GILMORE.

Witness:

CYRUS KEHR,
V. S. FERGUSON.